

AIR PERMIT AND/OR EXEMPTION

AIR ACCOUNT #

DB0411W

AIR PERMIT OR EXEMPTION #

1716

FILE TYPE:

P

VOL#

1

INCLUSIVE DATES:

1973-1995

Media Code/Format: M

☐ Microfiche

☐ Roll Microfilm

DATE: 12-07-88  
TIME: 18:11:24

TEXAS AIR CONTROL BOARD  
PERMIT APPLICATION SUMMARY

PAGE: 1

*File*

\*\*\*GENERAL PERMIT INFORMATION

PERMIT: 1716 ENGR: PEWITT, LAWRENCE / GROUP: METL ID: DR0411W  
ISSUED TO: JOHNSON CONTROLS, INC. - GLOBE BATTERY DIVISION  
UNIT NAME: LEAD OXIDE TRANSFER SYSTEM  
OPERATING SCHEDULE: 6.0 HRS/DAY 5 DAYS/WK 50 WKS/YR  
LAT: 32-54-15 LONG: 096-40-00 REGION: 8 COUNTY: DALLAS  
NEAR CITY: GARLAND LOC: 1111 SHILOH RD

\*\*\*PERMIT/SITE CONTACT INFORMATION:

PERSON: JON LAWRENCE ADDR1: P.O. BOX 461729  
TITLE: FLT MGR ADDR2:  
CITY: GARLAND STATE: TX ZIP: 75046 PHONE: (214)494-2461

\*\*\*APPLICATION

APPLI RECD: 11-06-73	CONSTRUCTION PERMIT:	OPERATING PERMIT:
TYPE (C,S,X): (C)	SUPP INFO REQ: 11-06-73	OPERATION START:
C=PERMIT	SUPP INFO RECD: 12-10-73	APPLICATION RECD: 05-15-74
S=SPECIAL	REGION COMM REQ: 12-10-73	PERMITS COMM REQ: 05-16-74
X=EXEMPT	REGION COMM RECD: 12-25-73	PERMITS COMM RECD: 06-02-74
	DISP (I,D,X,S): (I)	DISP(I,D,S): (I)
	AUTH: 01-12-74 DENIED:	AUTHORIZED DATE: 06-26-74
	CONST START:	DENIED DATE:

\*\*\*PERMIT AMENDED:

\*\*\*REMARKS: BY LETTER 11/15/88 CO CLAIMS EQUIP. REMOVED IN 1978 & SYSTEM COVERED UNDER R6903.

\*\*\*OTHER PERMIT DATES:

PP/PERMIT VOIDED: 12-05-88	REASON: RE	VOID/HOLD CODES:	PD-PLT DISMANTLED
APP ON HOLD UNTIL:	REASON:	CR-COMPANY REQUEST	TI-TIME EXPIRED
CONST STOPPED UNTIL:		DD-DATA DELAY	TD-TECH DIFFICULTY
		RE-REISSUED	NR-NO RESPONSE

\*\*\*PERMIT TYPES/STANDARDS:

NEW MAJ SOURCE: > 100 TPY:	SIC:	RELATED PERMITS: SUFFIX REASON
MAJOR MODIFICATION:	PORTABLE:	
NON-ATTAIN REVIEW:	NSPS:	TACR: CHG LOC:
INSIGNIFICANT EMISSIONS: X	NEESHAP:	PSD-TX: CHG OWN:
FUEL CONVERSION:	TOXIC MATERIALS:	STD FX NO.:

\*\*\*AIR CONTAMINANT INFORMATION:

NAME	CODE	MAX ALLOWABLE RATE LBS/HR	TONS/YR	ACTUAL TONS/YR	INCREMENT TONS/YR
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*ccw-92  
1-31-92*

*URB*

DEC 0 5 1988

5 1988

Mr. Mark R. Ishihara  
Environmental Engineer  
JOHNSON CONTROLS, INCORPORATED  
Battery Group  
Post Office Box 591  
Milwaukee, Wisconsin 53201-0591

Re: Permit Application No. R-1715  
Tanks  
Garland, Dallas County  
Account ID No. DS-0411-W

Dear Mr. Ishihara:

As you requested in your letter dated November 15, 1986, we are voiding the above referenced permit file. We understand that the equipment authorized by this permit was removed in 1978 and replaced with new equipment authorized by Permit No. R-6903.

All records regarding this application will be retained in case you should wish to reactivate the project in the future; however, any future reactivation will require that you reapply under the requirements of Texas Air Control Board Regulation VI in effect at that time.

Thank you for informing us of the status of this application.

Sincerely,

Cecil Bradford  
Permits Division

cc: Mr. Melvin Lewis, Regional Director, Fort Worth

bcc: CLB/sm, board, file (c:johnson.sm)

12/5

Johnson Controls, Inc.  
Battery Group  
5757 N. Green Bay Avenue  
Post Office Box 591  
Milwaukee, WI 53201-0591  
Tel. 414 228 1200

JOHNSON  
CONTROLS

Mr. Allen Eli Bell  
Texas Air Control Board  
6330 U.S. Highway 290 East  
Austin, TX 78723

November 15, 1988 RECEIVED

NOV 21 1988

ENFORCEMENT PROGRAM

Dear Mr. Bell:

RE: Johnson Controls, Inc. - Garland, TX  
Oxide Transfer System, Permit No. R-1716

Dallas Co

Act # DB 0411W

The equipment covered under Permit No. R-1716 was removed in 1978. The new system is covered under Permit No. R-6903. Therefore, we do not wish to renew Permit No. R-1716.

If you have any questions, please call me at 414/228-2650.

Sincerely,

JOHNSON CONTROLS, INC.

*Mark R. Ishihara*  
Mark R. Ishihara  
Environmental Engineer

MRI/jap

cc: D. J. Cooper

11/29  
CEB → file room  
- checked both files 1716 & 6903.  
No discussion/letter in either file  
to shed light on claim by Co. However,  
a closer look at the engineering  
data, descriptions, etc., may  
indicate to an engineer that unit  
6903 did, in fact, replace 1716.  
- no investigation of recent time  
were filed in either folders to  
indicate existence or removal  
of 1716.

CEB



# TEXAS AIR CONTROL BOARD

6330 HWY. 290 EAST  
AUSTIN, TEXAS 78723  
512/451-5711

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Chairman

BOB G. BAILEY  
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ALLEN ELI BELL  
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*file*  
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WILLIAM H. QUORTRUP  
C. H. RIVERS  
MARY ANNE WYATT

October 31, 1988

Mr. Jon Lawrence  
Plant Manager  
Johnson Controls, Inc. - Globe  
P.O. Box 461729  
Garland, Texas 75046-1729

Re: Permit No. R-1716  
Lead Oxide Transfer System  
Garland, Dallas County  
Account ID #DB-0411-W

Dear Mr. Lawrence:

Section 3.28(g) of the Texas Clean Air Act and Texas Air Control Board (TACB) Regulation VI, Rule 116.12 (copy enclosed) require that all operating permits issued by the TACB be reviewed every 15 years. This letter is to notify you that the referenced operating permit is scheduled for review. Please apply for review of your permit within 90 days after receipt of this notice using the enclosed application form. Failure to apply within 90 days will result in expiration of this permit 15 years following the date it was issued unless the application period is extended by the Executive Director for good cause.

Please furnish all information requested on the enclosed form. A fee based on the schedule set forth in Regulation VI, Rule 116.12 must be submitted with this application. Upon receipt of your application, a determination will be made, based on the quantity and character of emissions and the location of the facility, as to the need for you to furnish atmospheric dispersion modeling to determine the impact of emissions on the surrounding area. After we receive your completed application, we will notify you of the requirements and procedures for public notification.

If we may be of assistance to you in this matter, please contact the Permits Division.

Sincerely,

A handwritten signature in cursive script that reads "Eli Bell".

Allen Eli Bell  
Executive Director

Enclosures

cc: Mr. Melvin Lewis, Regional Director, Fort Worth

\*\*PERMIT: 1716 ENCR:PERMIT, L E / GROUP:METL ID:DB-0411-W  
 ISSUED TO:JOHNSON CONTROLS, INC. - GLOBE BATTERY DIVISION

PERSON:CS HERCK TITLE:PLT MGR  
ADDR 1:PO BOX 591 ADDR 2:BOX 249  
CITY:MILWAUKEE STATE:WI MAIL ZIP:53201 TELEPHONE:(214) 494-2461  
COMPANY BUSINESS:LEAD ACID BATTERY MFG  
LOCATION:1111 SHILOH ROAD NEAREST CITY:GARLAND  
COUNTY:DALLAS REGION:08 LAT:32-54-15 LONG:096-40-00 SITE ZIP:

\*\*\*PERMIT UNIT NAME:LEAD OXIDE TRANSFER SYSTEM  
UNIT ID NUMBER:IDGL00240 PERMANENT:X PORTABLE:  
GENERAL OPERATING SCHEDULE: HR/DAY:06 DAY/WK:5 WK/YR:50  
CLASSIFICATION: NEW FACILITY: NEW PERMIT:X MODIFIED: CHG LOC: CHG OWN:

\*\*\*CONST PERMIT: PI-1 RECD:11-06-73 SUPP INFO REQ:11-06-73 RECD:12-10-73  
REGION SENT:12-10-73 RECD:12-25-73 NSPS: NESHAPS:  
DISPOSITION OF PERMIT:(I,D,X)(I) 01-17-74 CONST START DATE:(E,A)( ) - -  
PRO TYPE:  
PRO SIZE:  
SIC:1111  
SCC: - - - - -

\*\*\*OPER PERMIT: PI-3 RECD:05-15-74 REGION SENT:05-16-74 RECD:06-02-74  
DISPOSITION OF PERMIT:(I,D)(I) 06-26-74 OPER START DATE:(E,A)( ) - -

\*\*\*VOID PERMIT RECORD: - - ( ) HOLD PERMIT PENDING UNTIL: - - ( )  
-VOID/HOLD CODES: CR-COMPANY REQUEST TI-TIME EXPIRED DD-DATA DELAY  
ID-TECHNICAL DIFFICULTIES RE-REISSUED AR-NO RESPONSE

REMARKS:

\*\*\*SPECIAL DATE: - - MESSAGE:  
SPECIAL DATE: - - MESSAGE:

[illegible]

***ABATEMENT EQUIPMENT: SUM OF EQUIPMENT FOR ALL POINTS IN THIS PERMIT		
QUAN	CODE	ABATEMENT DESCRIPTION
01	300	FILTERS-FABRIC (BAGHOUSE)

TEXAS AIR CONTROL BOARD  
FORM PI-1, GENERAL APPLICATION

All the information requested herein must be completed and submitted before public notification procedures may be initiated.

I. PERMIT TO BE ISSUED TO: Johnson Controls Inc.

(Corporation, Company, Government Agency, Firm, etc.)

Mailing Information (Person, title, address): Robert Nicolai - Mgr. Environmental Control  
5757 North Green Bay Avenue - P.O. BOX 591 - Milwaukee, Wisconsin 53201

Telephone: (414) 228-2452 Principal Company Product or Business: Battery Mfg.

II. LOCATION OF PERMIT UNIT (Latitude and Longitude must be to the nearest second): Zip Code of Permit Unit Site: 75040

Name of plant or site: Globe-Battery-Garland Plt. Street Address (if applicable) 1111 Shiloh Road

Nearest City: Garland County: Dallas Latitude: N32°54'15" Longitude: W-96°-40'0"

III. TYPE OF OPERATION OF PROCESS OF PERMIT UNIT: To record the change in company name - from

A. Name of operation or process of permit unit: Globe-Union to Johnson Control, Inc.

B. Applicants unit identification number: Johnson Control - Garland Plt. - 1111 Shiloh Rd-Garland

C. Type (check one): ☒ Permanent ☐ Portable

D. Operating schedule: 24 Hours/day; 5 Days/week; 50 Weeks/year.

IV. PERMIT UNIT CLASSIFICATION (Check applicable blocks):

A. ☐ New Permit Unit: Proposed start of construction date: \_\_\_\_\_ Proposed start of operation date: \_\_\_\_\_

B. ☐ Modification of Facility (See Section 1.03(9) of the Texas Clean Air Act) (Supply proposed dates in IV.A. above.)

C. ☐ Change in Location ☒ Change in Ownership ☐ Permit Unit Now Operating Under Permit R- \_\_\_\_\_

V. If Items IV. A, B, or C were checked, submit the following information under either A or B:

A. Data requested in B1, B2, B3, B4, and B5 has been previously submitted under Permit No. \_\_\_\_\_

B.1. Submit three copies of an area map to approximate scale showing the location of the property, geographical features such as highways, roads, streams and significant landmarks (including buildings and residences), distance to the center of nearest city of town if located outside an incorporated municipality. If the property is located within a town or city, a city map may be used to present this information, and if outside a town or city, a county highway map may be used.

B.2. Give a legal description of the tract of land upon which the plant or facility is located. The term "legal description" means either a metes and bounds description, or the block and lot number of a platted subdivision which would be suitable to effectuate the transfer of title to real property.

B.3. Submit a plot plan of the property, to scale, showing the boundaries, plant bench mark (Latitude-longitude), the location of all emission points of any air contaminants on the property, true north direction. Identify the emission points by numbers; use the same numbers for those emission points in this permit that will be consistent with the flow diagram process description and emission inventory questionnaire.

B.4. Submit emission data and stack parameters on Table 1. Review can be expedited if each emission point having more than one (1) pound per hour of particulate matter or sulfur dioxide is located with a specific latitude and longitude. Include fugitive emissions on Table 1 and submit information showing how the fugitive emissions were estimated.

B.5. Submit the estimated installed capital and operating costs for any and all abatement equipment associated with the permit unit.

VI. Submit the following information (See instructions concerning submission of confidential information).

A. Process Flow Diagram. Prepare and attach a flow diagram identifying significant individual processes and/or operations. Identify by number, points where raw materials, chemicals, and fuels are introduced, where gaseous emissions and/or airborne particulate matter may be discharged, including intermediate releases, where finished products are obtained, and location of pollution control devices.

B. Description of Process. Prepare and attach a written description of each process and of the function of the equipment in the process. (Identify items of equipment by numbers corresponding to flow diagram numbers.) The description must be in sufficient detail to determine the general operation of the process including emission sources and abatement equipment functions.

C. Material Balance. Submit Table 2 showing all materials used or produced by the permit unit.

VII. A copy of the application is being sent to the Regional Office of the Texas Air Control Board - ☐ Yes ☒ No  
A copy of the application is being sent to the local city or county air pollution control program - ☐ Yes ☒ No

VIII. I, Milton C. Zilis

(Name)

Vice President Gen. Manager Battery Division

(Title)

state that I have knowledge of the facts herein set forth and that the same are true and correct to the best of my knowledge and belief. I further state that to the best of my knowledge and belief, the project for which application is made will not in any way violate any provision of the Texas Clean Air Act, Article 4477-5, Vernon's Texas Civil Statutes, as amended, or any of the Rules and Regulations of the Texas Air Control Board or any local governmental ordinance or resolution enacted pursuant to the Texas Clean Air Act.

DATE 10/1/80

SIGNATURE Milton C. Zilis

(Owner, Plant Manager, President, Vice President)

FILE

ONE COPY OF LETTER  
+ COMPUTER PRINT OUT  
TO EACH APPROPRIATE FILE

NOV 13 1980

Mr. Robert Nicolai  
Manager Environmental Control  
JOHNSON CONTROLS, INCORPORATED  
Post Office Box 591  
Milwaukee, Wisconsin 53201

Re: Change of Name  
Lead Battery Manufacturing  
Facility  
Garland, Dallas County

Dear Mr. Nicolai:

We appreciate being informed of the change in the name of your company from Globe Union, Incorporated to Johnson Controls, Incorporated.

Our files have been updated to indicate this change in name.

Your cooperation and interest in air pollution control is appreciated.

Sincerely,

Louis R. Roberts, Ph.D., P.E., Director  
Permits and Source Evaluation Division

cc: Mr. Melvin Lewis, Regional Supervisor, Fort Worth  
Dr. Allen H. Fain, Director, Dallas County Health Department,  
Dallas

bcc: LEPEWITT/cjr; file; board; A-33

LEP

*[Handwritten signature]*





# TEXAS AIR CONTROL BOARD

PHONE 512/451-5711  
8520 SHOAL CREEK BOULEVARD

CHARLES R. BARDEN, P. E.  
EXECUTIVE DIRECTOR

JOHN L. BLAIR  
Chairman

AUSTIN, TEXAS - 78758

June 26, 1974

HERBERT W. WHITNEY, P.E.  
Vice-Chairman

ALBERT W. HARTMAN, JR., M.D.  
E.W. ROBINSON, P.E.  
CHARLES R. JAYNES  
JAMES D. ABRAMS, P.E.  
FRED HARTMAN  
WILLIE L. ULICH, Ph.D., P.E.  
JOE C. BRIDGEFARMER, P.E.

Mr. G. E. Stoughton  
Manager, Corporate Facilities  
GLOBE-UNION INCORPORATED  
P. O. Box 591  
Milwaukee, Wisconsin 53201

Re: Permit No. R- 1716  
Lead Oxide Transfer System  
Garland, Dallas County

Dear Mr. Stoughton:

An operating permit for your new facility is enclosed. We appreciate your cooperation in sending us the necessary information to evaluate your proposed facility.

Thank you for your interest and cooperation in air pollution control.

Yours very truly,

A handwritten signature in cursive script, reading "Charles R. Barden".

Charles R. Barden, P.E.  
Executive Director  
Texas Air Control Board

cc: Mr. Melvin Lewis, Regional Supervisor, Fort Worth  
Dr. J. M. Pickard, Director, Dallas Co. Health Dept., Dallas

bcc: LEP/dt, board file





# TEXAS AIR CONTROL BOARD

AN OPERATING PERMIT  
IS HEREBY ISSUED TO

GLOBE-UNION INCORPORATED

AUTHORIZING OPERATION OF  
Lead Oxide Transfer System  
ID GLO-6240

WHICH IS LOCATED AT  
Garland, Dallas County, Texas  
Lat: 32°54'15" Long: 96°40'00"

and which is to be operated in accordance with and subject to the Texas Clean Air Act, as amended (Article 4477-5, VTCS), and all Rules, Regulations and Orders of the Texas Air Control Board. Said operation is subject to any additional or amended rules, regulations and orders of the Board adopted pursuant to the Act, and to all of the following conditions:

1. This permit is non-transferable from person to person or from place to place.
2. Upon request by the Executive Director of the Texas Air Control Board, the holder of this permit shall make sufficient stack sampling analyses, or other tests, to prove satisfactory equipment performance. All sampling and testing procedures shall be approved by the Executive Director and coordinated with the regional representatives of the Texas Air Control Board.
3. The facilities covered by this permit shall not be operated unless all associated air pollution abatement equipment is maintained in good working order and operating properly during normal facility operations.
4. Special Provisions:

Opacity of emissions from the baghouse stack must not exceed 20%, as determined by a trained observer, averaged over a 5-minute interval except during a 5-minute start-up period.

Acceptance of this permit constitutes an acknowledgement and agreement that the holder will comply with all Rules, Regulations and Orders of the Board issued in conformity with the Act and the conditions precedent to the granting of this permit.

PERMIT NO. R- 1716 DATE June 26, 1974

  
(Director, Control & Prevention)  
TEXAS AIR CONTROL BOARD

TEXAS AIR CONTROL BOARD

FROM L. E. Pewitt -Permits Section TO Executive Director

(Project Engineer)

SUBJECT Permit to Operate No. R- 1716

1. NAME OF APPLICANT GLOBE-UNION INCORPORATED

2. TYPE OPERATION OR PROCESS Lead Oxide Transfer System

3. NEW SOURCE ☒ MODIFICATION ☐ PERMANENT ☒ PORTABLE ☐

4. IDENTIFICATION NUMBER ID GLO-0240

5. FACILITY LOCATION Garland, Dallas County, Texas

Latitude: 32°54'15" Longitude: 96°40'00"

COMMENTS

6. REGIONAL OFFICE: Favorable.
7. LOCAL PROGRAM: No comment.
8. AIR QUALITY: Favorable.
9. COMPLIANCE: Favorable.
10. LEGAL: No legal action pending.

11. RESULTS OF EVALUATION OF APPLICATION

A. NAME AND RATE OF CONTAMINANTS TO BE EMITTED:

Air Contaminant	Emission Rate	Uncontrolled	Regulation Allowable
Particulate (lead oxide)	0.04 lb/hr	40 lb/hr	2.06 lb/hr

(calculated emission rates from similar process)

B. COMMENTS - TECHNICAL REVIEW:  
Believe control will be very satisfactory.

C. SPECIAL PROVISIONS: Opacity of emissions from the baghouse stack must not exceed 20%, as determined by a trained observer, averaged over a 5-minute interval except during a 5-minute start-up period.

12. RECOMMENDATION - IT IS RECOMMENDED THAT THIS APPLICATION BE  
☒ APPROVED (SUBJECT TO SPECIAL PROVISIONS NOTED ABOVE).  
☐ DENIED. WRITTEN OBJECTIONS ARE ATTACHED.

Date Received 5-15-74

Date Sent to Region 5-16-74

Signed L. E. Pewitt  
 Date 6/20/74

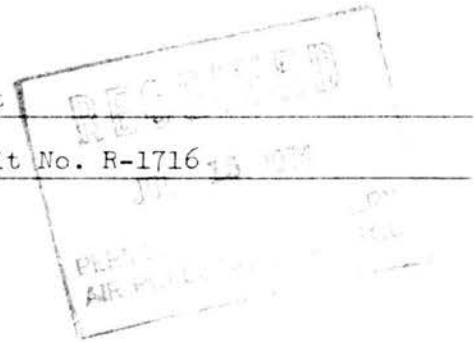
# Texas Air Control Board

AUSTIN

TEXAS

## INTER-OFFICE

FROM Melvin Lewis/Harry Nixon TO Lawrence Pewitt  
SUBJECT Globe-Union, Inc., Lead Oxide Transfer Baghouse - Permit No. R-1716  
LOCATION 1111 Shiloh Road, Garland 75040, Dallas County



An investigation of the subject plant was conducted on June 20, 1974 at a time when lead oxide was being transferred to the baghouse affected by Permit to Operate No. R-1716. During initial observations of this operation there were no visible emissions from the subject baghouse or baghouse vent. However an apparent upset condition occurred later in this investigation and lead oxide began escaping from the baghouse vent. Opacity varied from 5% to 20% for the most part. Occasionally the opacity was as high as 30%. Cause of this problem was unknown at the time and Mr. Jim Garrett, personnel manager, said that the baghouse would have to be entered to determine and correct the cause. On June 26, 1974 the writer telephone Mr. Garrett; however, Mr. Garrett still did not know the cause of this upset condition. Because of the toxic nature of lead oxide the writer suggests that a visible emissions limit of less than 20% be required for this operation if best control technology is available to permit such a reduction.

### Recommendation:

1. Correct problem of lead oxide emissions from transfer baghouse vent.
2. Do not approve Permit No. R-1716.
3. Reinvestigate.

*ALPENA  
Approved Per  
Ext. Legation's suggestion  
JUL 13 1974*

SIGNED Harry Nixon  
DATE July 5, 1974

# Texas Air Control Board

AUSTIN

TEXAS

## INTER-OFFICE

☒ Region (8) ☒ Compliance  
☒ Local ☒ Legal  
☒ Air Quality

FROM LAWRENCE PRUITT - Permits Section TO \_\_\_\_\_

SUBJECT Request for Comments on Permit Application No. R-1716 DATE: 5-15-74

1. NAME OF APPLICANT GLOBE UNION INC.
2. TYPE OPERATION OR PROCESS LEAD OXIDE TRANSFER FACILITY
3. NEW SOURCE ☒ MODIFICATION ☐ PERMANENT ☒ PORTABLE ☐
4. IDENTIFICATION NUMBER ID-GLO-0740
5. FACILITY LOCATION GARLAND, DALLAS COUNTY  
Latitude: 32-54-15 Longitude: 96-40-00

### 6. PRELIMINARY EVALUATION OF APPLICATION:

#### A. NAME AND RATE OF CONTAMINANTS TO BE EMITTED:

Air Contaminant	Emission Rate	Uncontrolled Rate	Regulation Allowable
LEAD OXIDE	0.04 lb/hr	40 lb/hr	2.06 lb/hr

EMISSIONS DETERMINED FROM MEASURED DATA FROM SIMILAR FACILITY

#### TYPE AND QUANTITY OF AIR POLLUTION CONTROL DEVICES PROPOSED:

BAGHOUSE - 1

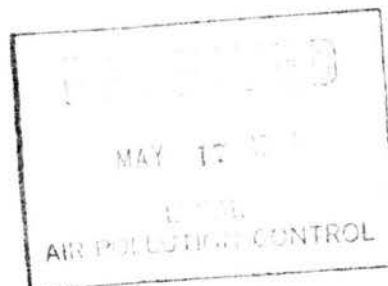
C. COMMENTS - TECHNICAL REVIEW NONE

#### D. PROPOSED SPECIAL PROVISIONS:

PARTICULATE EMISSIONS MUST NOT BECOME A NUISANCE

REQUESTED COMMENTS: (Please return your comments as soon as possible within 15 days after you receive this information.)

*No comment*



BOARD FILE

SIGNED \_\_\_\_\_

DATE \_\_\_\_\_



# TEXAS AIR CONTROL BOARD

PHONE 512/451-5711  
8520 SHOAL CREEK BOULEVARD

CHARLES R. BARDEN, P. E.  
EXECUTIVE DIRECTOR

HERBERT C. McKEE, Ph.D., P.E.  
Chairman

HERBERT W. WHITNEY, P.E.  
Vice-Chairman

AUSTIN, TEXAS - 78758

WENDELL H. HAMRICK, M.D.  
E. W. ROBINSON, P.E.  
CHARLES R. JAYNES  
JOHN BLAIR  
JAMES D. ABRAMS, P.E.  
FRED HARTMAN  
WILLIE L. ULICH, Ph.D., P.E.

May 16, 1974

Dr. J. M. Pickard, Director  
Dallas County Health Department  
1936 Amelia Street  
Dallas, Texas 75235

Re: Application R-1716  
Globe Union Inc.  
(Lawrence Pewitt)

Dear Dr. Pickard:

This is to notify you that the above referenced company has submitted an application for a permit to operate a facility in accordance with Regulations of the Texas Air Control Board. The address of the company is listed on the attachment along with the name of the person to contact regarding further information.

Your comments concerning this application should be submitted to this office within ten (10) days from the date of this letter so that they can be evaluated before any decision is made. We appreciate your time and effort, and if further information is needed, please let us know.

Yours very truly,

Steve Spaw, Director  
Permits & Inventory Division  
Texas Air Control Board

Enclosures

board, file



# Texas Air Control Board

AUSTIN

TEXAS

## INTER-OFFICE

☒ Region (8)    ☒ Compliance  
☒ Local        ☒ Legal  
 Air Quality

FROM Lawrence Pruitt - Permits Section TO \_\_\_\_\_

SUBJECT Request for Comments on Permit Application No. R-1716 DATE: 5-15-74

1. NAME OF APPLICANT GLOBE UNION INC.
2. TYPE OPERATION OR PROCESS LEAD OXIDE TRANSFER FACILITY
3. NEW SOURCE ☒      MODIFICATION ☐      PERMANENT ☒      PORTABLE ☐
4. IDENTIFICATION NUMBER ID-GLO-0740
5. FACILITY LOCATION GARLAND, DALLAS COUNTY  
 Latitude: 32-54-15    Longitude: 96-40-00

6. PRELIMINARY EVALUATION OF APPLICATION:
- A. NAME AND RATE OF CONTAMINANTS TO BE EMITTED:
- | Air Contaminant  | Emission Rate     | Uncontrolled Rate | Regulation Allowable |
|--|-------------------|-------------------|----------------------|
| <u>LEAD OXIDE</u>  | <u>0.04 lb/hr</u> | <u>40 lb/hr</u>   | <u>2.06 lb/hr</u>    |
| <u>EMISSIONS DETERMINED FROM MEASURED DATA FROM SIMILAR FACILITY</u> |                   |                   |                      |

B. TYPE AND QUANTITY OF AIR POLLUTION CONTROL DEVICES PROPOSED:  
BAGHOUSE - 1

C. COMMENTS - TECHNICAL REVIEW NONE

D. PROPOSED SPECIAL PROVISIONS:  
PARTICULATE EMISSIONS MUST NOT BECOME A NUISANCE

REQUESTED COMMENTS: (Please return your comments as soon as possible within 15 days after you receive this information.)

BOARD FILE

SIGNED \_\_\_\_\_

DATE \_\_\_\_\_

TEXAS AIR CONTROL BOARD  
FORM PL-3, OPERATING APPLICATION

I. PERMIT TO BE ISSUED TO: GLOBE-UNION INC.  
(Corporation, Company, Government Agency, Firm, etc.)  
Mailing Address: P. O. BOX 591 MILWAUKEE, WISCONSIN 53201  
Individual authorized to act for applicant: Name: G. E. Stoughton Title: Manager, Corporate Facilities  
Address: 5757 North Green Bay Ave., Milw. WI 53201 Telephone: (414) 228-3288

II. PERMIT UNIT INFORMATION:  
Location: Nearest City Garland County Dallas  
Permit Unit now operating under permit No. C- 1716

III. PERMIT UNIT SCHEDULE: For Lead Oxide Transfer Baghouse  
Date permit unit placed in operation: June 10 1974  
(Month) (Day) (Year)

RECEIVED  
MAY 18 1974

IV. LOCAL AGENCIES:

Has Local Air Pollution Control Program been contacted since permit unit was placed in operation?

☐ Yes

☒ No

☐ No active local program in the city or county

V. SPECIAL PROVISIONS: Have provided for number 1 provision and expect no difficulty with numbers 2 and 3.

If special provisions were listed on the construction permit, supply data or other information to indicate compliance with those provisions.

VI. I, Robert F. Nicolai Pollution Control Engineer  
(Name) (Title)

state that I have knowledge of the facts herein set forth and that the same are true and correct to the best of my knowledge and belief, the project for which application is made will not in any way violate any provision of the Texas Clean Air Act, Article 4477-5, Vernon's Civil Statutes, as amended, or any of the rules and regulations of the Texas Air Control Board or any local governmental ordinance or resolution enacted pursuant to the Texas Clean Air Act.

DATE May 7, 1974

SIGNATURE

*Robert F. Nicolai*

# Texas Air Control Board

AUSTIN

TEXAS

## INTER-OFFICE

FROM Doyle Pendleton Lawrence Peritt INTER-OFFICE ☒ Region (8) ☒ Compliance  
~~Lawrence Peritt~~ Permits Section TO ☒ Local ☒ Legal  
☒ Air Quality

SUBJECT Request for Comments on Permit Application No. R-1716 DATE: 5-15-74

1. NAME OF APPLICANT GLOBE UNION INC.
2. TYPE OPERATION OR PROCESS LEAD OXIDE TRANSFER FACILITY
3. NEW SOURCE ☒ MODIFICATION ☐ PERMANENT ☒ PORTABLE ☐
4. IDENTIFICATION NUMBER ID-GLO-0240
5. FACILITY LOCATION GARLAND, DALLAS COUNTY  
Latitude: 32-54-15 Longitude: 96-43-00

### 6. PRELIMINARY EVALUATION OF APPLICATION:

#### A. NAME AND RATE OF CONTAMINANTS TO BE EMITTED:

Air Contaminant	Emission Rate	Uncontrolled Rate	Regulation Allowable
LEAD OXIDE	0.04 lb/hr	40 lb/hr	2.06 lb/hr

EMISSIONS DETERMINED FROM MEASURED DATA FROM SIMILAR FACILITY

#### B. TYPE AND QUANTITY OF AIR POLLUTION CONTROL DEVICES PROPOSED:

BAGHOUSE - 1

#### C. COMMENTS - TECHNICAL REVIEW NONE

#### D. PROPOSED SPECIAL PROVISIONS:

PARTICULATE EMISSIONS MUST NOT BECOME A NUISANCE

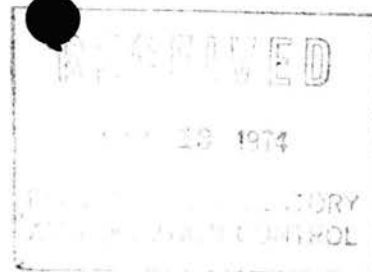
REQUESTED COMMENTS: (Please return your comments as soon as possible within 15 days after you receive this information.)

No comment

BOARD FILE

SIGNED Doyle Pendleton

DATE May 18, 1974



LEP

May 7, 1974

Mr. Charles R. Barden, P.E.  
Executive Director  
Texas Air Control Board  
8520 Shoal Creek Boulevard  
Austin, Texas 78758

Dear Mr. Barden:

SUBJECT: PERMIT NO. C-1716  
CLOTH BAGHOUSE FOR LEAD  
OXIDE TRANSFER  
GARLAND, DALLAS COUNTY

We wish to inform you that our installation will be completed within thirty days and are enclosing an operating permit application.

Very truly yours,

  
R. F. Nicolai  
Pollution Control Engineer

RFN:dj

Enclosure

CC: Mr. Lawrence Pewitt  
Texas Air Control Board

J. M. Beaudoin  
J. K. Jeglum  
P. H. Arndt



# TEXAS AIR CONTROL BOARD

PHONE 512/451-5711  
8520 SHOAL CREEK BOULEVARD

CHARLES R. BARDEN, P. E.  
EXECUTIVE DIRECTOR

AUSTIN, TEXAS - 78758

HERBERT C. McKEE, PhD., P.E.  
Chairman

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WILLIE L. ULICH, Ph.D., P.E.

JAN 17 1974

Mr. G. E. Stoughton, Manager  
Corporate Facilities  
GLOBE-UNION, INC.  
P. O. Box 591  
Milwaukee, Wisconsin 53201

Re: Permit No. C- 1716  
Lead Oxide Transfer  
Garland, Dallas County

Dear Mr. Stoughton:

A construction permit for your new facility is enclosed. We appreciate your cooperation in sending us the necessary information to evaluate your proposed facility.

We have also enclosed an application(s) for a permit to operate (Form PI-3). Within sixty (60) days after operation of the facility begins, please return each application in triplicate.

Yours very truly,

Charles R. Barden, P.E.  
Executive Director  
Texas Air Control Board

Enclosure

cc: Mr. Melvin Lewis, Regional Supervisor, Fort Worth  
J. M. Pickard, M.D., Director, Dallas County Health Department  
bcc: LEP/kw  
Board, File



# State Department of Health

AUSTIN

TEXAS

## INTER-OFFICE

MR. STEVE SPAW - PERMITS & INVENTORY  
FROM L.E. Pewitt - PROJECT ENGINEER TO MR. CHARLES R. BARDEN, P.E.  
EXEC. SEC. - TEXAS AIR CONTROL BOARD

SUBJECT EVALUATION OF APPLICATION FOR PERMIT TO CONSTRUCT C-1716

AN APPLICATION FOR A CONSTRUCTION PERMIT HAS BEEN RECEIVED AND ACTION HAS BEEN TAKEN AS FOLLOWS:

1. NAME OF APPLICANT Globe Union, Inc.
2. ADDRESS P. O. Box 591  
Milwaukee, Wisconsin 53201
3. TYPE OPERATION OR PROCESS Lead Oxide Transfer
4. PROCESS UNIT IDENTIFICATION NUMBER ID - GLO - 0240
5. FACILITY LOCATION Garland, Dallas County, Texas

- |                            | COMMENTS                                      |                                      |
|----------------------------|---|--------------------------------------|
| 6. REGIONAL OFFICE:        | <input checked="" type="checkbox"/> FAVORABLE | <input type="checkbox"/> UNFAVORABLE |
| 7. LOCAL PROGRAM:          | <input type="checkbox"/> FAVORABLE            | <input type="checkbox"/> UNFAVORABLE |
| 8. AIR QUALITY EVALUATION: | <input checked="" type="checkbox"/> FAVORABLE | <input type="checkbox"/> UNFAVORABLE |
| 9. COMPLIANCE:             | <input checked="" type="checkbox"/> FAVORABLE | <input type="checkbox"/> UNFAVORABLE |
| 10. LEGAL:                 | <input type="checkbox"/> FAVORABLE            | <input type="checkbox"/> UNFAVORABLE |

No legal action pending

11. RESULTS OF EVALUATION OF APPLICATION:

A. NAME AND RATE OF CONTAMINANTS TO BE EMITTED INTO ATMOSPHERE:

Lead oxide 0.04 lb/hr actual emission rate, Reg. I particulate allowable 2.06 lb/hr. Uncontrolled emission rate 40 lb/hr

B. TYPE AND QUANTITY OF AIR POLLUTION CONTROL DEVICES PROPOSED:

Baghouse 1

C. COMMENTS - TECHNICAL REVIEW: Sampling at previous times indicate satisfactory operation of this facility.

D. SPECIAL PROVISIONS:

See attached sheet labeled "Special Provisions 1716", 1-3

12. RECOMMENDATION - IT IS RECOMMENDED THAT THIS APPLICATION BE

☒ APPROVED. (SUBJECT TO SPECIAL PROVISIONS NOTED ABOVE).  
☐ DENIED. WRITTEN OBJECTIONS ARE ATTACHED.

DATE REC'D. 11-6-73

DATE SUPP. APP. REC'D. 11-6-73

DATE SENT TO REGION 12-10-73

New Permit Unit

SIGNED

DATE

Jan 1, 1974



# TEXAS AIR CONTROL BOARD

A CONSTRUCTION PERMIT  
IS HEREBY ISSUED TO  
GLOBE UNION, INCORPORATED

AUTHORIZING CONSTRUCTION OF  
Lead Oxide Transfer  
ID - GLO - 0240

WHICH IS TO BE LOCATED AT  
Garland, Dallas County, Texas


and which is to be constructed in accordance with and subject to the Texas Clean Air Act, as amended (Article 4477-5, VTCS), and all Rules, Regulations and Orders of the Texas Air Control Board. Said construction is subject to any additional or amended rules, regulations and orders of the Board adopted pursuant to the Act, and to all of the following conditions:

1. This permit is non-transferable from person to person or from place to place.
2. This permit is automatically void if construction is not begun within one year of the date of issuance.
3. This permit is automatically void when an operating permit is issued or denied.
4. The facility covered by this permit shall be constructed as specified in the application for permit to construct.
5. The Board shall be notified in writing at least thirty days prior to the start-up of the facility authorized by this permit.
6. The Board shall be notified in writing at least thirty days prior to the start of any required monitoring of the facility authorized by this permit.
7. This permit is not a guarantee that the facility will receive an operating permit at the end of the construction period, nor does it absolve the holder from the responsibility for the consequences of non-compliance with all Rules and Regulations and orders of the Texas Air Control Board or with the intent of the Texas Clean Air Act.
8. Special provisions:

See attachment labeled "Special Provisions C-1716", 1-3

Acceptance of the permit constitutes an acknowledgement and agreement that the holder will comply with all Rules, Regulations and Orders of the Board issued in conformity with the Act and the conditions precedent to the granting of this permit.

PERMIT NO. C-1716 \_\_\_\_\_ DATE January 17, 1974 \_\_\_\_\_

for  (Director, Agency Operations)  
EXECUTIVE SECRETARY  
TEXAS AIR CONTROL BOARD

SPECIAL PROVISIONS

C-1716

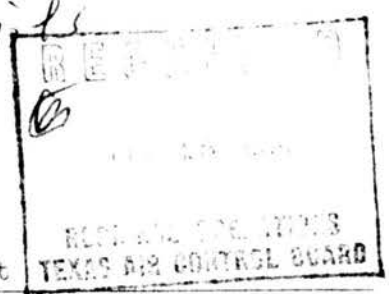
1. The holder of this permit shall demonstrate that all hooding, duct and collection systems are effective in capturing emissions from this equipment with no fugitive emissions from buildings.
2. Opacity of emissions from the baghouse vent must not exceed 20%, as determined by a trained observer, averaged over a 5-minute interval except during a 5-minute start-up period.
3. Stack sampling ports and platform(s) as specified in the attachment entitled "Particulate Sampling" may be required at a later date if determined necessary by the Executive Director of the Texas Air Control Board.

# Texas Air Control Board

AUSTIN

TEXAS

## INTER-OFFICE



FROM Melvin Lewis/David L. Thompson TO Lawrence E. Pewitt

SUBJECT Globe Union Inc. - Permit No. C-1716

LOCATION 1111 Shiloh Road, Garland, Dallas County

### Investigator's Comments:

On January 30, 1974, an investigation of the Globe Union plant in Garland was conducted by this investigator. At the time of investigation this facility was in full operation and all processes were observed. The presently installed abatement equipment appeared to be in good condition and operating properly.

The proposed baghouse unit will be installed adjacent to the existing baghouse unit and will be utilized to increase the efficiency of the present system.

### Recommendation:

That Permit No. C-1716 be granted.

SIGNED

*David L. Thompson*

DATE

February 13, 1974

# REQUEST FOR AIR QUALITY DATA

The applicant below has applied for a permit to construct. Please supply whatever air quality data is available for the area and contaminants in question.

NOTE: Please return to Permits & Inventory by 12-18-73  
(Date)

REQUESTED BY: Lawrence E. DeHoff 12-7-73  
Permits & Inventory Programs (Date)

Permit to be Issued to: Globe Union

LOCATION OF PLANT OR FACILITY GARLAND Dallas  
(Nearest City) (County)  
N 32° 54' 15" W 96° 40' 0"  
(Latitude) (Longitude)

TYPE OF OPERATION OR PROCESS Lead Oxide Handling

## EXPECTED AIR CONTAMINANT EMISSIONS:

0.04 lb/hr LEAD OXIDE = 350 lb/yr

## AIR QUALITY EVALUATION PROGRAMS RECOMMENDATION

FAVORABLE ☒

UNFAVORABLE ☐

## COMMENTS:

No data available for

LEAD OXIDES ARE MUCH SAFER THAN IONIC FORMS OF LEAD. EMISSIONS WILL BE  $PbO \cdot Pb_2O_3$ .  
L.E.P. says STACK EMISSIONS will be about  $5 \text{ mg/m}^3$  in range. We can do a lot of work on this.

BY: Marilyn Proulx for Roger Phillips (DATE)  
AIR QUALITY EVALUATION PROGRAMS





# TEXAS AIR CONTROL BOARD

PHONE 512/451-5711  
8520 SHOAL CREEK BOULEVARD

CHARLES R. BARDEN, P. E.  
EXECUTIVE DIRECTOR

AUSTIN, TEXAS - 78758

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CHARLES R. JAYNES  
JOHN BLAIR  
JAMES D. ABRAMS, P.E.  
FRED HARTMAN  
WILLIE L. ULICH, Ph.D., P.E.

December 10, 1973

Dr. J. M. Pickard, Director  
Dallas County Health Dept.  
1936 Amelia Street  
Dallas, Texas 75235

Re: Application C-1716  
Globe-Union Inc.  
(Lawrence E. Pewitt)

Dear Dr. Pickard:

This is to notify you that the above referenced company has submitted an application for a permit to construct a facility in accordance with Regulations of the Texas Air Control Board. The address of the company is listed on the attachment along with the name of the person to contact regarding further information.

Your comments concerning this application should be submitted to this office within fifteen (15) days from the date of this letter so that they can be evaluated before any decision is made. We appreciate your time and effort, and if further information is needed, please let us know.

Yours very truly,

Steve Spaw, Director  
Permits & Inventory Division  
Texas Air Control Board

Enclosures

LEP/dmt, board, file

# Texas Air Control Board

AUSTIN

TEXAS

## INTER-OFFICE

FROM Lawrence E. Pountt, Project Engineer Melvin Lewis, Region 8  
Permits and Inventory Division TO  
SUBJECT Request for Comments on Permit Application DATE: 12-7-73

Please give us your comments on the attached permit application within 15 days for a construction permit application, or within 10 days for an operating permit application.

Permit Application No. C-1716 R-

To Be Issued To: GLOBE LIND

Location: GARLAND

(Nearest City)

DALLAS

(County)

Process Unit Identification Number: ID-GLO-0240

### Engineer's Comments:

Melvin: This is to increase The Capacity of the Lead Oxide  
Handling Facilities.  
Lawrence

### Region's Comments:

**ETTELL ENGINEERING, Inc.**

5220 EAST AVENUE, COUNTRYSIDE, ILLINOIS 60525 • PHONE 312/482-7205

August 14, 1973

Globe-Union, Inc.  
5757 North Green Bay Avenue  
Milwaukee, Wisconsin 53201

ATTENTION: Mr. R. Nicolai

SUBJECT: Dallas Battery Plant

Dear Bob:

Included are three copies of each of the following:

- A. Stack Emission Test Report
- B. Summary of Total Plant Emissions
- C. Process Weight Data Measured During Stack Tests

The test procedures used for particulate matter are in accordance with the requirements set forth in the Texas Air Regulations.

Stack Emission Tests

As noted from the report the eight mold operation and remelt pot are major sources of air pollution. Also the roof area around these operations as well as the paint spray and pasting oven should be cleaned to avoid storm water and/or sewer contamination.

Summary of Total Plant Emissions

Emissions were determined as follows:

1. Tests of representative stacks:

Data obtained was used to determine emissions from duplicate sources. This applies to the grid casting pasting line, heat seal, small Ruemelins in COS, and large COS line baghouse.

2. Tests from similar processes at Geneva, Louisville and Tampa plants.

This applies to the oxide transfer baghouse and epoxy cover seal (tar pot).

3. Emission Factors.

This applies to the gas fired process equipment only.

AUG 16 1973

Globe-Union, Inc.  
ATTN: Mr. R. Nicolai  
August 14, 1973

Page 2

Process Weight Data

Tests were conducted during normal operations. Daily production figures were used to determine average process weight rates at each test station.

We sincerely appreciated your assistance during the emission tests.

Thank you for giving us this opportunity to be of service to you.

Very truly yours,

ETTELT ENGINEERING, INC.

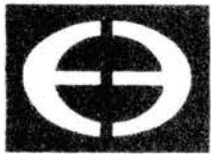
  
Ronald P. Arens



RPA/bas

GLOBE UNION  
GARLAND, TEXAS  
BATTERY PLANT

PROCESS WEIGHT DATA AS  
MEASURED DURING  
STACK EMISSION TESTS





REMELT AREA

W. O. 11-1

Feed - Scrap lead parts 95-97% lead 3-5% antimony

Output: Pig lead and dross

<u>Total Equipment</u>	<u>Average Production Rate</u>
1 remelt furnace	1040 lb/hour
Pig lead and dross	

Process exhaust: Rotoclone Stack #10

Furnace exhaust: Rotoclone Stack #10A

PARTS CASTING

Work Order 12

Feed - Pig lead - 97% lead    3% antimony

Output - straps

Total Equipment

Average Production Rate

1 - "A" stand - Winkel

Hand casting    100 lb/hour

Process stack exhaust - 7

Furnace exhaust    - 7A

# GRID CASTING

W. O. 11

Feed - Pig lead - 94% lead      5% antimony  
                                 0.3% tin      0-0.4% arsenic

Output - Grids

## Total Equipment

## Average Production Rate, Each Unit

\* 1 - Total of three units

Globe Union - 8 mold

1-5000 # lead pot

1-1000 # lead pot

551 lb/hour

\* During emission tests only two units were in operation.

Process Exhaust Stacks: #6

Furnace Exhausts: 6A, 6B, 6C

2 - Total of five units \*\*

Wirtz - single mold

1-2500 # lead pot

436 lb/hour

\*\* 3 mold banks per unit

Process Exhaust Stacks pots - 1, 2, 3, 4, 5

Furnace Exhausts - 1A, 2A, 2B

3 - Total of two units

Winkel - twin molds

no longer in operation

100% standby

Process exhaust stacks: 23

Furnace exhausts: 23A

PASTE MIXING

W. O. 13

Feed - Lead oxide - 75%    Lead - 100%  
          Sulfuric Acid  
          Water

Output - Paste

Existing

<u>Total Equipment</u>	<u>Average Production Rate, Each Unit</u>
1. Total of two units	
Modified Simpson Mixer	
Feed: Lead Oxide	1470 lb/hour
Water	250 lb/hour
Acid	80 lb/hour

Process Exhausts: Baghouse #18, 20 (oxide transfer)

New\*

2. Total of one unit	
Modified Simpson Mixer	
Feed: Lead oxide	2400 lb/hour
Water	400 lb/hour
Acid	133 lb/hour

Process Exhaust: Baghouse #18

\* Unit not as yet installed

PLATE PASTING

W.O. 13-1

Feed: Grids, paste

Output - Plates

<u>Total Equipment</u>	<u>Average Production Rate, Each Unit</u>
1 - Total of two units	
Winkel Belt Pasting	
Grids	1591 lb/hour
Paste	2137 lb/hour
2 - Total of one unit	
F.O.P. - Paste Machine	
Grids	1600 lb/hour
Paste	2100 lb/hour

Process Exhausts, ovens #8, 9

Baghouses #18

NOTE: One oven has closed loop heating and no oven exhaust.  
During emission tests on plate pasting baghouse (Stack #18),  
the F.O.P. pasting line was not in operation



ELEMENT ASSEMBLY

ELEMENT STACKING - ELEMENT BURNING - ELEMENT ASSEMBLY

Feed: Element stacks (plates, separators)

Pig lead - 97% lead 3% antimony

Lead posts - 97% lead 3% antimony

Output: completed internal elements in containers

Total Equipment

Average Production Rate, Each Unit

1 - Total of three units

Globe Reed Stackers and

Rotary element burn (C.O.S.)

Element Stacks

2185 lb/hour

Lead Straps

105 lb/hour

Exhaust Systems: Baghouses 15, 16, 17, 19 (one  
COS unit), 21 (2 COS units)

2 - Tiegel Hand Stacking and Hand (shuttle)

Burn Units

Element Stacks

765 lb/hour

Pig Lead

60 lb/hour

Exhaust Systems: Baghouses 14, 19

NOTE: During emission tests on C.O.S. baghouse  
(Stack #19), The C.O.S. line and Tiegel  
unit were in operation.

HEAT SEAL - POLYPROPYLENE COVERS

W.O. 16-1

POLYPROPYLENE BATTERIES

Feed: Polypropylene covers, containers w/elements

Output: Assembled containers

<u>Total Material</u>	<u>Average Output, Each Unit</u>
1. Total of three units	
Heat Seal Covers to containers	
Polypropylene containers	155 lb/hour
Polypropylene covers	45 lb/hour
Process Exhausts Stack #'s 11, 12, 13	

HARD RUBBER BATTERIES

Feed: Rubber containers with elements, covers, epoxy, asphalt compound

1. Hard Rubber Battery Assembly	
Rubber Covers	40 lb/hour
Epoxy	2.4 lb/hour
Asphalt compound	16 lb/hour

Process Stacks: Stack # 28

NOTE: Normal production is 90-95% polypropylene batteries.

Container weights do not include elements.

POST BURN & ACID FILL

W.O. 16-3 & 16-4

ACID MIX-ELECTRICAL FORMATION

Feed - Concentrated acid and water

Process Exhausts: Stack #33A thru 33H

\* BATTERY DECORATING

Feed - completed batteries, detergent, vent caps, labels, paint  
and so forth

Total Material

Average Output

Paint w/thinner

20 pounds/day

Process Exhausts: 24, 25, 26, 27, 29, 30, 31, 32

\* Painting of batteries will be discontinued  
at future date.

PLANT CLEAN-UP

Total Equipment

Average Production Rate

1. Hoffman central vacuum  
system

none - 100% in-plant  
clean-up operation

Exhaust stack: 22

# SUMMARY OF TOTAL

## PLANT EMISSIONS

### FUEL COMBUSTION SOURCES

#### Process Combustion Sources

<u>Process</u>	<u>Stack #</u>	<u>Total BTU/HR.</u>
Grid casting, single mold		1,750,000
Grid casting, eight mold		1,000,000
Plate pasting ovens		1,700,000
Plate pasting ovens		300,000
Remelt furnace		950,000
Parts casting		100,000
Tar pot		20,000
		<u>5,820,000</u>

The following process fuel combustion sources are not included above:

Grid casting, single mold, 2 units - 100% standby  
 Eight mold, one unit - 100% standby  
 Battery decorating - intermittent operation - will be discontinued in near future

#### Non-Process Combustion Sources

Unit heaters - 11 @ 300,000 BTU/HR. =	3,300,000
6 @ 250,000 BTU/HR. =	1,500,000
4 @ 200,000 BTU/HR. =	800,000
1 @ 225,000 BTU/HR. =	225,000
Water heater - 1 @ 728,000 BTU/HR. =	728,000
3 Dravo Units - 3 @ 1,200,000 BTU/HR. =	<u>3,600,000</u>
	10,153,000

All units are for space heating (winter use) except for water heater

Total of 15,973,000 BTU/HR. = approximately  
 15,973 cubic feet of gas per hour.



<u>Contaminant</u>	<u>Emission Factor*</u>	<u>Total Average Emissions, LB/HR.</u>
Particulates	18	0.288
Sulfur Dioxide	0.6	0.01
Carbon Monoxide	0.4	0.006
Hydrocarbons	40	0.64
Nitrogen Oxides	150	2.40

\* Emission factor for natural gas fired fuel burning from U.S. E.P.A. Emission factors equal pounds per million cubic feet of gas burned.

PROCESS EMISSIONS

Particulate Matter

<u>Process</u>	<u>Stack #</u>	<u>Total Average Emissions, LB/HR.</u>
Grid casting, single mold	1	0.042
Grid casting, single mold	2	0.054
Grid casting, single mold	3	0.048*
Grid casting, single mold	4	0.054
Grid casting, single mold	5	0.048*
Grid casting, eight mold	6	0.760
Small parts casting	7	0.022
Plate pasting	8	0.066
Plate pasting	9	0.066*
Remelt rotoclone	10	0.810
Heat seal	11	0.069
Heat seal	12	0.069*
Heat seal	13	0.069*
Hand burn, small baghouse	14	0.004
Element assembly, small baghouse	15	0.003
Element assembly, small baghouse	16	0.003*
Element assembly, small baghouse	17	0.003*
Pasting line baghouse	18	0.250





<u>Process</u>	<u>Stack #</u>	<u>Total Average Emissions, LB/HR.</u>
COS & Tiegel baghouse	19	0.056
Oxide transfer baghouse	20	0.040**
COS baghouse	21	0.082*
Central vacuum system	22	0.027
Tar pot	28	0.005**
TOTAL		2.65

\* Based on ratio of process weights during tests on representative stacks.

\*\* Based on tests conducted on duplicate processes at other Globe plants.

The following processes are not included in the above:

Grid casting, single mold, 2 pots - 100% standby  
 Grid casting, eight mold, 1 pot - 100% standby  
 Battery decorating - intermittent operation - will be discontinued in near future

Organics\*

<u>Process</u>	<u>Stack #</u>	<u>Total Average Emissions, LB/HR.</u>
Heat seal	11, 12, 13	1.32
Tar pot	28	0.05
		1.37

\* As non-photochemically reactive hydrocarbons.  
 Again, battery decorating not included.

Acid Mist

Plate pasting	8, 9	0.030
Acid mix - electrical formation	33A - 33H	0.024
		0.054

Total Emissions pounds/hour

Particulate matter	2.938
Sulfur dioxide	0.010
Carbon monoxide	0.006
Organics (hydrocarbons)	2.010
Nitrogen Oxides	2.400
Acid Mist	0.054

Note that total emissions were obtained assuming that all process equipment was operating simultaneously.



GLOBE UNION - GARLAND

C-1716      SOURCE #20

$$Q = 0.04 \text{ lb/hr LEAD OXIDE}$$

$$ACFM = 430 \text{ FT}^3/\text{MIN}$$

$$T_s = 105^\circ\text{F}$$

$$V_s = 15 \text{ FT/SEC}$$

$$D_s = 0.90 \text{ FT.}$$

$$H_s = 42 \text{ FT.}$$

### EFFECTIVE STACK HEIGHT

$$H_e = 42 + 0.093 \times 15 \times 0.90 \left[ 1.5 + 0.82 \left( \frac{565 - 550}{550} \right) 0.90 \right]$$

$$H_e = \underline{43.7 \text{ FT}}$$

### STANDARD EFFECTIVE STACK HEIGHT

$$H_{es} = 1.05 (430)^{0.35} = \underline{8.77 \text{ FT}}$$

### REGULATION EMISSION RATE ALLOWABLE

$$Q_{all} = 0.048 (430)^{0.62} = \underline{2.06 \text{ lb/hr}}$$

### UNCONTROLLED EMISSION RATE

ESTIMATE 99.9% CONTROL EFFICIENCY

$$Q_{uncontrolled} = \frac{0.04}{0.001} = \underline{\underline{40 \text{ lb/hr}}}$$

TEXAS AIR CONTROL BOARD  
FORM PI-2, SUPPLEMENTAL APPLICATION

This application and all attachments to be submitted in triplicate. Incomplete applications will not be processed. Review of applications and issuance of permits will be accomplished sooner if all necessary information is supplied with the initial application forms.

A. PERMIT TO BE ISSUED TO: GLOBE-UNION INC.  
(Corporation, Company, Government Agency, Firm, etc.)  
Mailing address: P. O. BOX 591 Milwaukee, WI 53201  
Individual authorized to act for applicant: Name: G. E. Stoughton Title: Manager,  
Corporate Facilities  
Address: 5757 North Green Bay Avenue Telephone: (414) 228-3288  
Milwaukee, Wisconsin 53201

B. LOCATION OF PERMIT UNIT:  
Nearest city: Garland County: Dallas

C. TYPE OF OPERATION OR PROCESS OF PERMIT UNIT: Lead Acid Battery Manufacturing Plant  
Name of operation or process of permit unit: Lead Oxide Transfer - Planning an extra cloth  
bag dust collector  
Permit unit identification number: ID - GLO - 0240

D. PERMIT UNIT SCHEDULE:  
Construction expected to begin: 1/1/74  
(Date)  
Operation expected to begin: 4/1/74  
(Date)

E. PROVIDE THE REQUESTED INFORMATION LISTED ON THE ATTACHED TABLE(S).

F. I, Pollution Control Engineer  
(Name) R.F.Nicolai (Title)

state that I have knowledge of the facts herein set forth and that the same are true and correct to the best of my knowledge and belief. I further state that to the best of my knowledge and belief, the project for which application is made will not in any way violate any provision of the Texas Clean Air Act, Article 4477-5, Vernon's Texas Civil Statutes, as amended, or any of the rules and regulations of the Texas Air Control Board or any local governmental ordinance or resolution enacted pursuant to the Texas Clean Air Act.

DATE 11/30/73 SIGNATURE \_\_\_\_\_

# GLOBE Union - DALLAS

EMISSION COLLECTION

SYSTEM - FLOW DIAGRAM

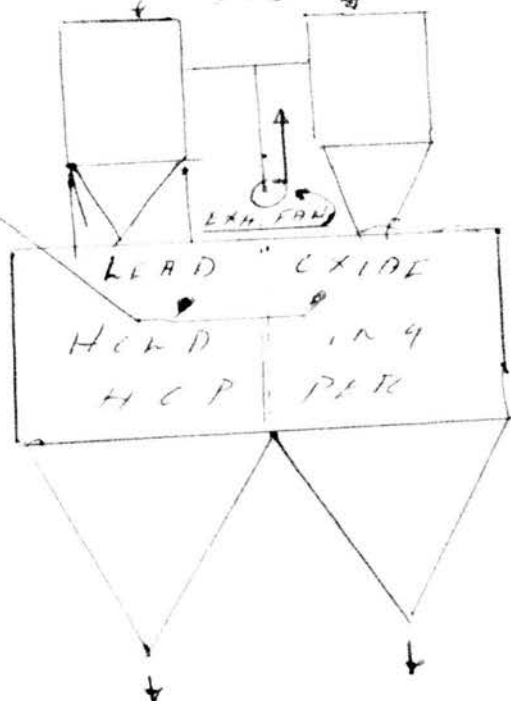
BULK - LEAD CYLIDE

TRANSFER SYSTEM

PURCHASED  
LEAD CYLIDE  
STORAGE

AIRLOCK  
TRANSFER  
SYSTEM

RUEMELTAN - CATCH  
BAG - FILTERS  
& CULS



BAGHOUSE UNITS

MOUNTED ON ROOF

10" HARTZELL STACK  
CAP

R7N  
10/23/73

## Globe-Union Garland Plant

**TABLE 1**  
**EMISSION SOURCES**

List all sources, including this application, of air contaminants on applicant's property. If applicant has submitted this information in an earlier emission inventory, it will not be necessary to duplicate the requested information. Instead, indicate that this page has been submitted and list only changes from the emission inventory and list new source data.

ALL SOURCES				STACKS ONLY					
SOURCE NUMBER (From Plot) Plan	LIST POLLUTANT EMISSIONS (CHEMICAL COMPOSITION) & WT. % OF EACH	FLOW RATE OF EACH LISTED EMISSION		SOURCE NUMBER (From Plot) Plan	STACK HEIGHT ABOVE GROUND (ft.)	STACK INTERNAL DIAMETER AT EXIT (ft.)	TEMP. DEG. (F)	VELOCITY (FT/SEC)	MOIS. %
		GASEOUS PARTICULATE							
20	Lead Oxide - 100%	-	.04#/hr.	20	42	.9	105	15	3

ENCLOSE THE FOLLOWING AVAILABLE INFORMATION:

1. EMISSIONS OTHER THAN THROUGH STACKS (HORIZONTAL VENTS, ETC.) None
2. STACK'S HEIGHT ABOVE SUPPORTING OR ADJACENT STRUCTURES. 8'
3. DIMENSIONS OF NON-CIRCULAR STACKS. —
4. RESULTS OF TESTS INDICATING AVERAGE PARTICLE SIZE, DENSITY, ETC.

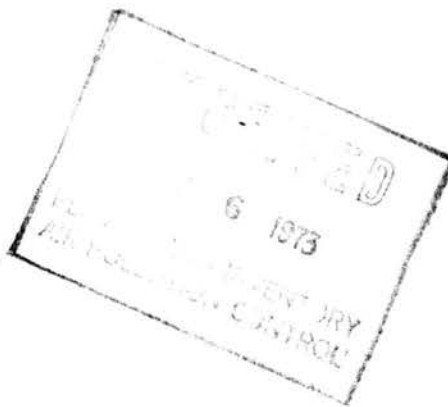


TABLE 2  
MATERIAL BALANCE

This material balance table is used to quantify possible emissions of air contaminants and special emphasis should be placed on potential air contaminants, for example: If feed contains sulfur, show distribution to all products. Please relate each material (or group of materials) listed to its respective location in the process flow diagram by assigning point numbers (taken from the flow diagram) to each material.

LIST EVERY MATERIAL INVOLVED IN EACH OF THE FOLLOWING GROUPS	Point No. from Flow Diagram	Process Rate (lbs/hr or SCFM) standard conditions: 70°F 14.7 PSIA. Check appropriate column at right for each process.	Measurement	Estimation	Calculation
1. Raw Materials - Input	A	20,000#/hr.		x	
2. Fuels - Input  NONE		--			
3. Products & By-Products - Output	B	20,000#/hr.		x	
4. Solid Wastes - Output	B				
5. Liquid Wastes - Output  NONE					
6. Airborne Waste (Solid) - Output	C	.04#/hr.		x*	
7. Airborne Wastes (Gaseous) - Output	NONE				

\*Note Ettelt's Engineering Sampling Tests indicated .04#/hr for one unit operating; with more surface and same volume, less dust should be emitted.



November 5, 1973

Mr. Lawrence Pewitt  
Texas Air Control Board  
8520 Shoal Creek Boulevard  
Austin, Texas 78758

Dear Mr. Pewitt:

SUBJECT: RECENT APPLICATION FOR ADDITIONAL  
BAGHOUSE PERMIT - GARLAND, TEXAS

Attached please find three up-dated roof plan drawings  
which were omitted from our application package submitted  
October 26. Item 20 covers the exhaust fan.

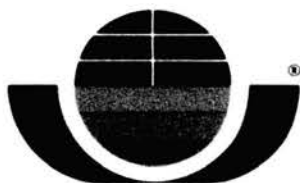
Very truly yours,

*R. F. Nicolai*  
R. F. Nicolai  
Pollution Control Engineer

RFN:dj

Enclosure

CC: R. P. Shaner  
W. Wall  
J. M. Beaudoin



GLOBE-UNION INC.

RECEIVED

November 30, 1973

DEC 6 1973

PERMITS AND INVENTORY  
AIR POLLUTION CONTROL

PI-2

~~Mr. Lawrence Pewitt~~

Texas Air Control Board  
8520 Shoal Creek Boulevard  
Austin, Texas 78758

Dear Mr. Pewitt:

SUBJECT: PERMIT APPLICATION FOR AN ADDITIONAL  
CLOTH BAGHOUSE AND EXHAUST FAN FOR  
BULK OXIDE SYSTEM, GLOBE-UNION, GARLAND

On October 26 and November 5, we submitted information for a permit covering the additional baghouse. Per your recent request, we are supplying additional information on the new forms. The previously submitted drawings and flow sheets detail our proposed installation.

The bulk (Barton and Ball Mill Type) lead oxide is received by truck and stored in hoppers within a building immediately to the south of the oxide tower. We use an airveyor system to transfer the oxide to two existing bulk oxide "day" storage hoppers. These hoppers are presently equipped with only one Ruemelin #205 baghouse gravity vent system. The new baghouse will be the same size and will be mounted adjacent to the present unit; thereby, splitting the venting load. The dust trapped by the filters drops back into the hoppers.

The air being vented is the air used for conveying the oxide, the oxide displacement air, along with any dust generated in the hopper filling operation. The second filter is being used to reduce the internal pressure by providing more cloth filtering surface, along with a push-pull fan operation.

If you have any questions, please feel free to call.

Very truly yours,

R. F. Nicolai  
Pollution Control Engineer

RFN:dj

# Ruemelin Tubular Type DUST FILTERS

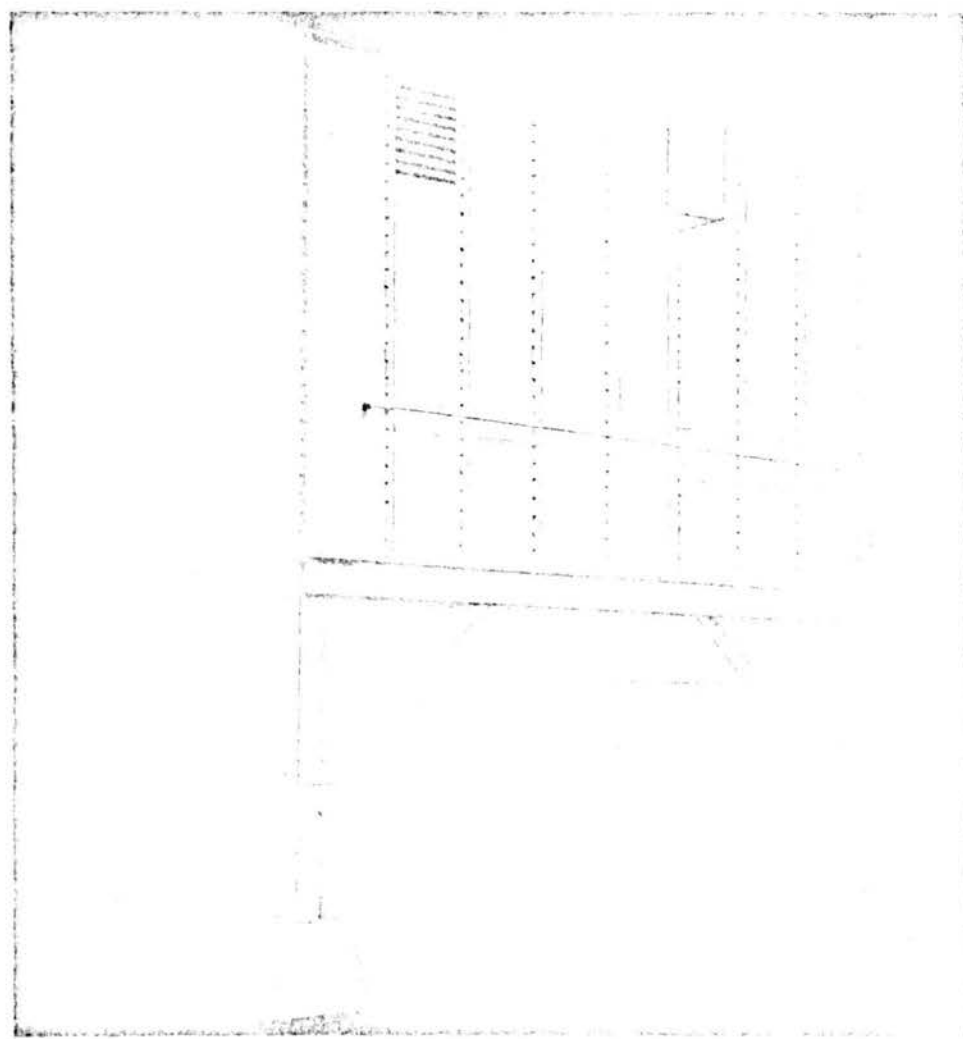


Fig. 1. Size 1830 Filter and fan house in granite cutting plant.

RUEMELIN pioneered the "Tubular Cloth Type Filter" and has patented many exclusive, practical features. Progressive refinement and close attention to detail are factors which mean satisfaction to the user and sound investment. Many customers have standardized on Ruemelin Filters. Thousands of successful installations have been made.

It is usually profitable to collect dusts which may be a nuisance or have salvage value. In many installations the value of reclaimed material has repaid the investment in a short period. A thoroughly engineered dust collecting hood and pipe system in combination with our cloth type dust filter has proven to be very practical in service. Dusty air is collected at the source and conveyed to the Filter.

Our efficient Cloth Type Filter reclaims dust particles down to 1 micron in size and recovers over 99.8% of all dust loads. Ruemelin Cloth Type Filters have proven most durable in service. Very low maintenance and repair costs are made possible with this modern filter design.

*Practical*

*Simple*

*Efficient*

*Attractive*

*Proven*

*Reliable*

Fig. 2. Filter handling lead oxide in battery plant.

Purchasers of Dust Control Systems obtain the advantages of positive filtering action with Ruemelin dry cloth filters and this efficiency is not approached by dry cyclones or wet collectors. Ruemelin Filters are built for best performance and not to sell at lowest prices. Many users have not replaced filter bags in over ten years.

# Ruemelin Tubular Type DUST FILTERS

**Advantages of the Ruemelin Tubular Cloth Dust Filter**—The Ruemelin Dust Filter has been designed for high efficiency, low maintenance cost and simplicity of operation and inspection. Our filter design has proven superior to other types of cloth filter units. The tubular bag principle has been acknowledged by users to be really practical and most efficient. The critical, technical purchaser and maintenance engineer prefer the features of a Ruemelin Dust Filter for the following reasons:—

1. **EFFICIENCY OF DUST COLLECTION**—Ruemelin Tubular Filter bags collect finely divided particles of dust smaller in size than 1 micron. This has been proven by dust counts made by accredited industrial hygiene laboratories.
2. **OPERATING ADVANTAGES**—Each Ruemelin tubular filter bag can be installed in a few minutes. They are easily inserted into a bag hanger at the top and held

in the bag plate at bottom by a simple expanding spring design. The bag plate openings are unrestricted thereby preventing bridging of dust when bags are shaken during the clearing cycle. The filter bags deflate when fan is shut off so that bag cleaning is thorough and complete. The bags are never being cleaned while under pressure. (The filter bags are never under uneven tension as is frequently found in the flat cloth screen type of filter.)

3. **EASE OF INSPECTION**—Ruemelin tubular filter bags are easy to inspect without removal. The Maintenance Engineer can check every group of bags from a center clean air walk-way.



Fig. 5. Filter with pre-settling chamber attached to a battery of grinding wheels in engine plant.



Fig. 6. Section of bag chamber showing filter bag suspension and leak-proof method of placing bag in bag plate. Note shaking method.

## DETAILS OF CONSTRUCTION

(Features of construction are shown in Fig. 10.)

**Filter Bags**—(See Fig. 6) Ruemelin tubular type cloth filter bags are made of special heavy cotton cloth selected for long life and have a high dust filtration efficiency. All seams are folded and double sewed. Bags are of ample diameter with two flexible rings of steel sewed securely into the cloth at the bottom. Bags are supported in vertical position by hard metal hanger rods, in a manner that assures the proper degree of slackness. The top of bag is provided with a steel hoop to form the bag into a tube. Ruemelin filter bags do not have steel screens or wooden frames,

wires, tacks or other devices in the filter fabric that create tension and subsequent cloth wear. They are quickly and easily installed into the bag plate holes by simply collapsing bag rings. This provides a positive dust seal, eliminating dust leakage. The round tubular cloth bag design lowers air flow resistance resulting in thorough bag cleaning and consequent reduction in electric power consumed by the fan. The filter bags have plenty of side clearance to eliminate contact of adjacent bags. The floor of the filter chamber is easily cleaned by removal of several bags. (Filter bags are also available in wool, orlon, nylon, pre-shrunk or fire proofed cotton cloth for unusual conditions.)

# Ruemelin Tubular Type DUST FILTERS

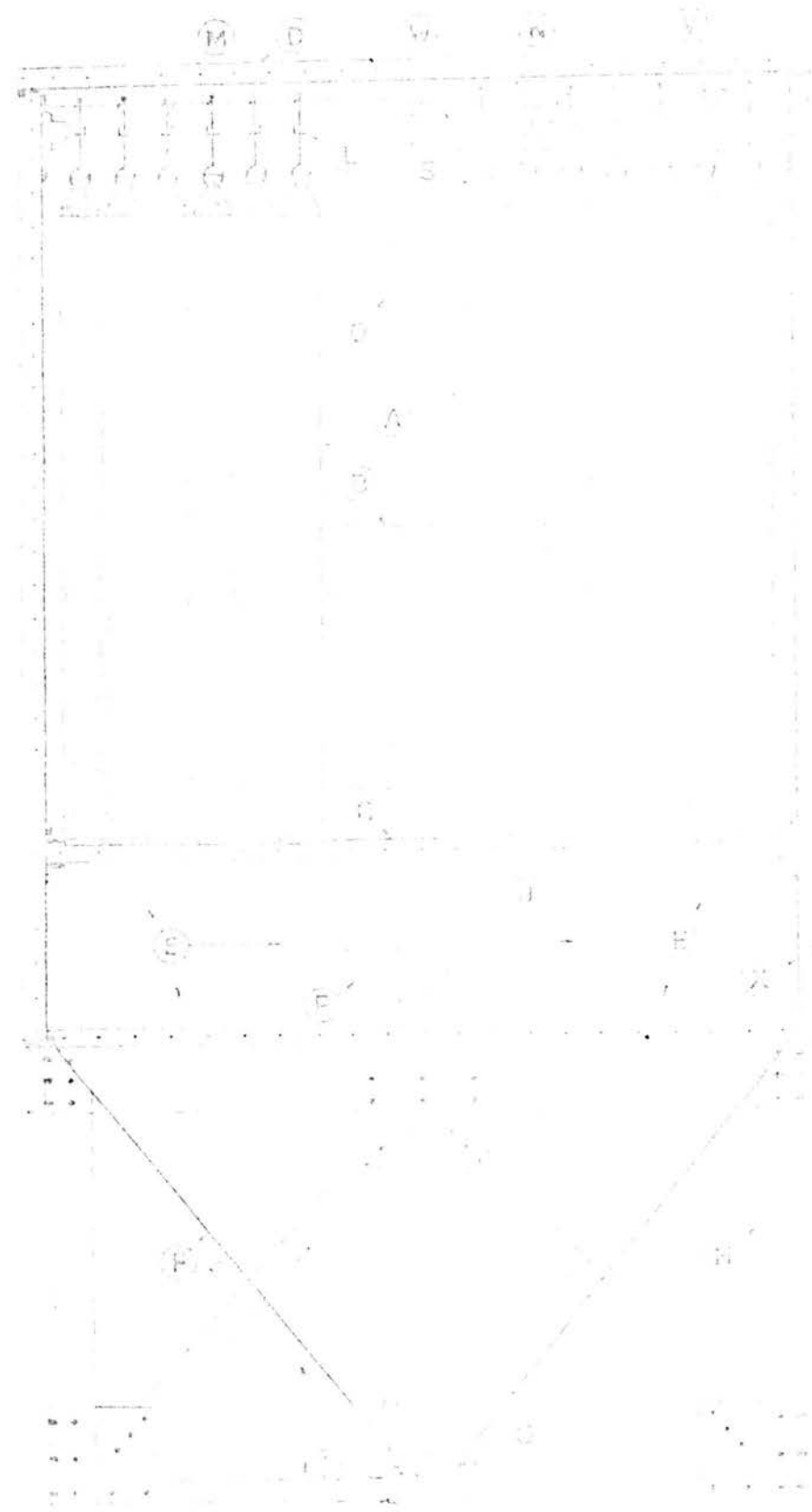


Fig. 10 shows several patented features of Ruemelin Filters—

- A Special tubular cloth bags are simple and quick to install. (See Fig. 6)
- B Large hinged sealed entry door for access to inside of filter.
- C Unobstructed walk-way inside of filter for convenient inspection of tubular bags, shaker shaft, etc.
- D Sloping roof of filter casing for drainage of rain. Reinforced for snow loads.
- E Large expansion chamber below bags to settle heavy dusts.
- F Heavy steel hopper of welded construction.
- G Dust discharge valve is rubber sealed forming positive air seal. Counter-balanced and lever actuated. (See Fig. 7)
- H Heavy steel supports of various heights.
- J Simple bag plate with bag holes for steel spring bag fastenings.
- K Bag shaker located outside of filter for ease of access and freedom from contact with dust. (See Fig. 9)
- L Shaker rods reciprocate alternately to eliminate vibration of filter housing.
- M Bag supporting hangers, hinged to roof beams carry full weight of bags. No load is imposed on shaker rods or shaker mechanism.
- N Roof beams for supporting entire load of bags.
- O Clean air outlet pipe connected to inlet of exhaust fan. (Pipe by purchaser.)
- P Dusty air inlet pipe delivers air into expansion dust chamber "E".
- R Rubber cushioned connecting rod with porous Bronze Bearing on shaker avoids shock and wear.
- S Top fastenings of tubular bags permit adjusting for proper slack.
- T Pivoted motor for automatically tightening V-Belt Drive. (See Fig. 9)
- U Bag shaker housing with access door.
- V Reversing bag-shaker levers welded to shaker shaft. Cannot become loosened.
- W Reciprocating shaft sturdily supported by antifriction bearings.
- X Man-hole for ease of access to inside of dust hoppers.

Fig. 10. Illustrating interior construction of Filter. See list at right for details and features.



# Ruemelin Tubular Type DUST FILTERS

**Hand Operated Bag Shaker**—(See Fig. 24) For small size Filters, No. 53 to No. 375 inclusive, a hand operated shaker is regularly supplied which imparts a reciprocating movement to the bags. For heavy dust loads the electric shaker is desirable.

**Electric Bag Shakers**—(See Fig. 23) It is recommended that Filters 375 to 755 Cubic Feet be furnished with electric motor driven shaker (at added cost). The shaker operates silently through a V-Belt Drive, having automatic belt take-up. Ball-bearing motor. A weather-proof enclosure is included with electric shakers. Internal bag shaker rods are reciprocating of the same type as used on our large knock-down type Filters.

**Pre-settling Chamber**—(See Fig. 27) A pre-settling chamber is recommended to remove coarse particles of an abrasive nature. This prevents cloth bag wear and reduces the dust load in the filter. Inlet may be rotated in four directions.



Fig. 29. BIN MOUNTED FILTERS. Shipped with lifting lugs and bin mounting flange. Used extensively in conjunction with pneumatic conveying. Eliminates dust nuisance. Recommended for cement or fly ash bins. Electric bag shaker discharges collected dust back into bin on which it is mounted.



Fig. 30



Fig. 28. Dust discharge valve. Used on dust hoppers shown in Fig. 23 and Fig. 24. Note rubber seat and weighted lever handle.

TABLE OF CAPACITIES AND SIZES OF ASSEMBLED FILTERS

Size Filter (Cloth Area Sq. Ft.)	Air Capacity C. F. M.		Motor For Bag Shaker	Overall Dimensions							Inlet	Outlet	Approx. Shipping Weights	
	3 to 1 Ratio	4 to 1 Ratio		A	B	C	D	E	F	G			Filter Only	Separator Only
53	160	210	Hand	2-2"	1-9"			5-1"			3"	4"	190 lbs.	
100	300	400	Hand	3-1"	2-2"			6-0"			4"	5"	370 lbs.	
145	435	580	1/2 H.P.	2-8"	2-8"	9-1"	1-3"	6-6"	5-4"	16"	5"	7" 5"	600 lbs.	210 lbs.
205	615	820	1/2 H.P.	3-3"	2-3"	9-7"	1-6"	6-6"	6-10"	18"	6"	8" 5"	830 lbs.	240 lbs.
280	840	1120	1/2 H.P.	3-7"	1-7"	9-9"	1-6"	6-9"	7-2"	20"	7"	10" 7"	1100 lbs.	370 lbs.
375	1125	1500	1/2 H.P.	3-7"	3-7"	11-7"	1-6"	8-8"	7-3"	25"	8"	10" 5"	1230 lbs.	370 lbs.
550	1650	2200	1/2 H.P.	4-6"	4-1"	12-8"	1-6"	8-11"	8-8"	30"	9"	12" 8"	1420 lbs.	650 lbs.
755	2255	3020	1/2 H.P.	5-5"	4-6"	12-11"	1-6"	9-5"	9-2"	40"	11"	12" 16"	1750 lbs.	700 lbs.

Fig. 31. Dimension Table.

I N S T R U C T I O N S

FOR

INSPECTION AND MAINTENANCE OF  
RUEMELIN CLOTH TYPE DUST COLLECTORS

STARTING UP THE EQUIPMENT:

- A. Be sure all hopper valves are closed.
- B. Be sure the exhaust fan propeller wheel rotates in the proper direction; that is, so the air is thrown into the outlet of the exhauster.
- C. Regulate all blast gates for proper air volume and suction.
- D. With the equipment to be serviced by the filter in operation and connected to the system under dust load, start the exhaust fan and allow the dust laden air to enter the filter for about four hours or until a dust mat is formed on the inside of the cloth bags. After operating under these conditions stop the exhaust fan and operate the bag shaker for two minutes. Inspect the inside of the filter for any possible leaks.

\*NOTE: When the bags are being shaken the hanger rod on the top of the bag must oscillate back and forth equi-distant from their neutral vertical position. This is very important and may be accomplished by resetting the lever R-681 for assembled filters and R-300 for K.D. filters.

- E. The dust filter is shipped with a prime coat of paint and should be repainted as soon as the erection is completed.

DUST REMOVAL:

Remove all collected dust from the hoppers frequently. The dust should never be allowed to accumulate to within one-half the distance from the top of the hopper.

CLEANING BAGS:

After every four hours of operation shut down the exhaust fan and, after it has come to a complete stop, operate the bag shaker for approximately two minutes. DO NOT shake the bags while the exhaust fan is operating.

We recommend that a Ruemelin automatic bag shaker control assembly be installed. This device will eliminate manual attention on the part of the operator. (part # 6400)

OILING & INSPECTION:

A thorough inspection should be made of the collector at least every two weeks. This inspection is primarily a precautionary measure and should include the following:

- 1 - Grease and oil all moving parts with a high grade lubricant. Consult motor manufacturer's specifications for proper lubrication of motor.
- 2 - Inspect shaker mechanism for wear and proper shaking action as stated in \*Note on Page 1.
- 3 - Check the casing and hopper for dust leakage. Check roof for water leakage and; if necessary, coat with heavy asphalt roof coating.
- 4 - Tighten all loose bolts.
- 5 - Inspect the bags for leakage.
- 6 - Replace the worn bags immediately or remove the bag from the top hanger and use the bag to close off the bag hole in the bag plate until replacements are obtained. When replacing bags, have the seam of the bag facing towards the side of the filter and insert the open end of the bag in the bag plate, so that one spring is above and one below the bag plate. To attach the bag to the roof angles, thread the support rod through the shaker angle, then pull the bag taut. Bend the bag hanger rod 90 degrees so that when the rod is hooked in the hanger angle there will be 1½" slack in the bag. For K.D. shakers consult assembly of K.D. Dust Filters.

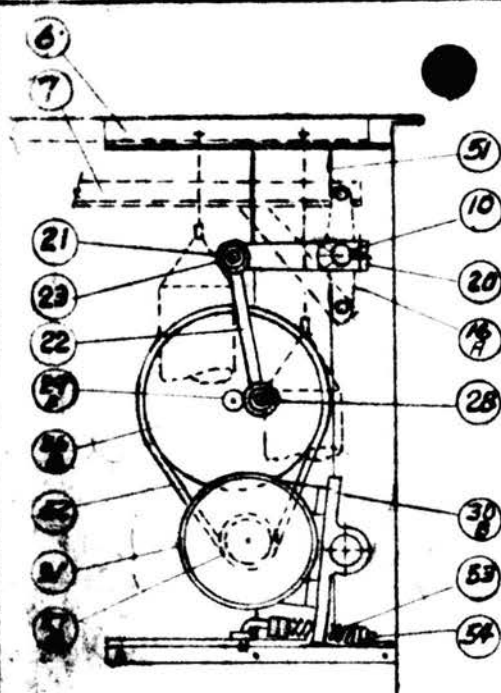
RENEWAL PARTS: (SERIAL NUMBER MUST BE GIVEN)

SERIAL NUMBER AND FILTER SIZE, WHICH CAN BE OBTAINED FROM NAMEPLATE, MUST BE GIVEN WHEN ORDERING PARTS. FOR FAST DELIVERY GIVE ITEM NUMBER AND COMPLETE DESCRIPTION OF PART.

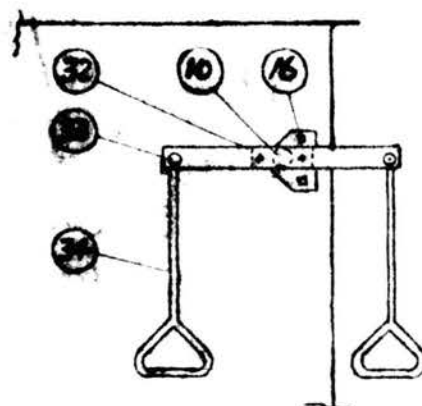
SPECIAL NOTE:

A dust collector is designed to collect dust within its rated capacity not to intercept quantities of coarse sand or abrasive. When a considerable portion of coarse, heavy particles are present a Ruemelin pre-separator should be installed to provide a preliminary separation. This will result in a smaller load on the dust filter and greatly prolong cloth life.

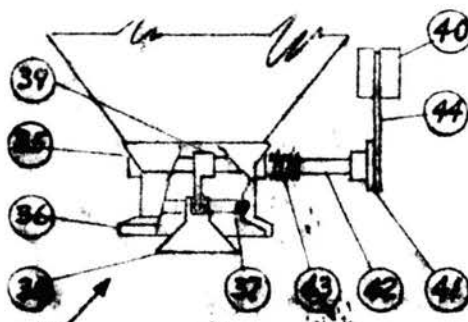
The new # 6700 vacuum gauge set for measuring static resistance across the filter bags & checking systems condition for service & maintenance is a recommended accessory for all Ruemelin filters.



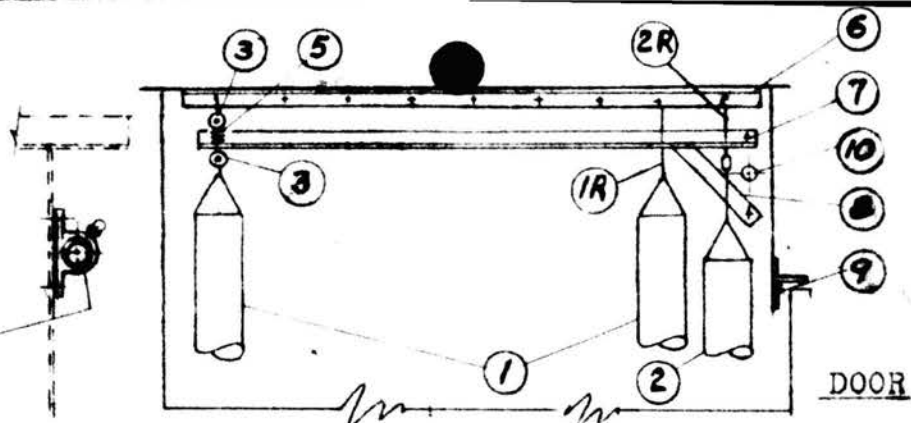
**MOTOR DRIVEN BAG SHAKER**



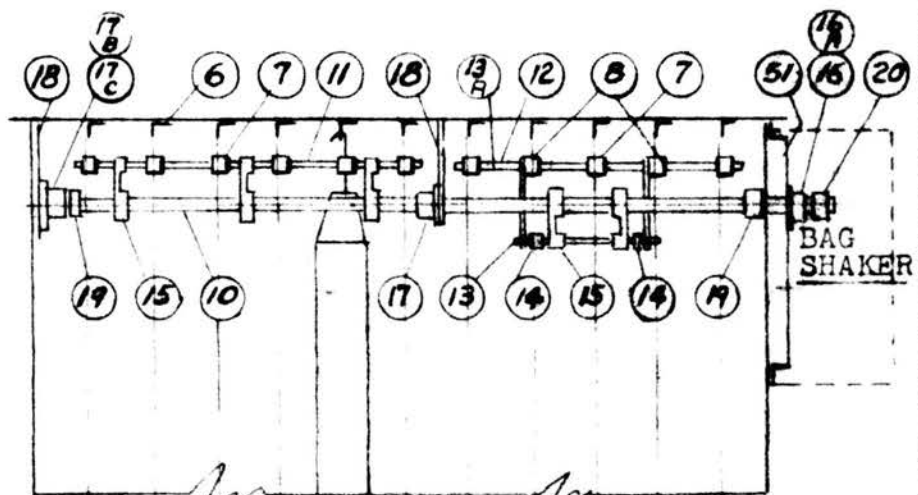
**HAND BAG SHAKER**



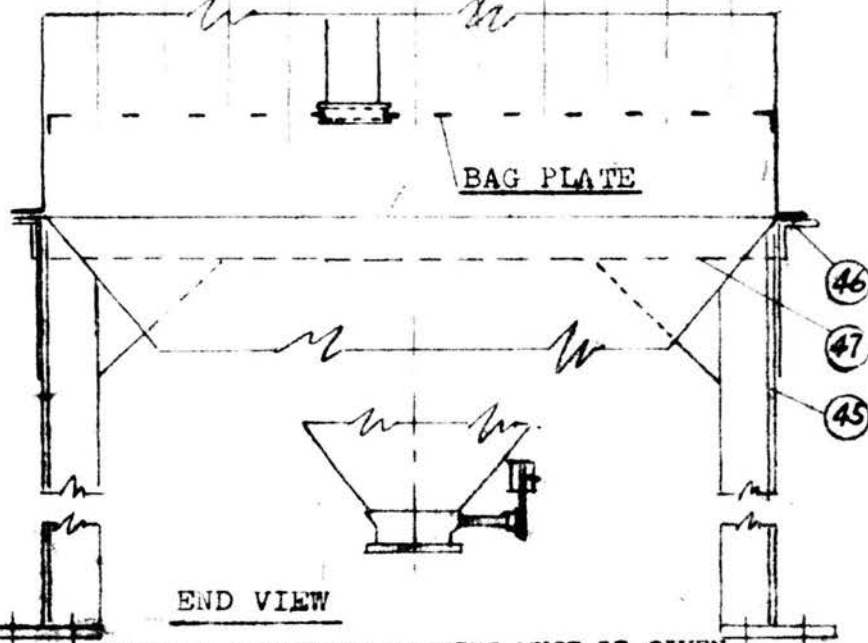
**HOPPER DUST VALVE**



**SIDE VIEW**



**BAG SHAKER**



**END VIEW**

**BAG PLATE**

Replaced by Valve Dwg. 5236 (5/1/67) SERIAL NUMBER OF MACHINE MUST BE GIVEN  
(Give Machine Number On Name Plate When Ordering Parts)

THIS DRG. IN DESIGN AND DETAIL IS OUR PROPERTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH OUR WORK AND IS SUBJECT TO RETURN. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.

Date **01-2258**  
Dwg No  
**5020**

**RUEMELIN MFG. CO.**  
MILWAUKEE, WISCONSIN - U. S. A.

PARTS LIST  
ASSEMBLED FILTERS: V-BELT DRIVE BAG SHAKER

PARTS LIST FOR #205 DUST FILTER  
See Dwg. 5020

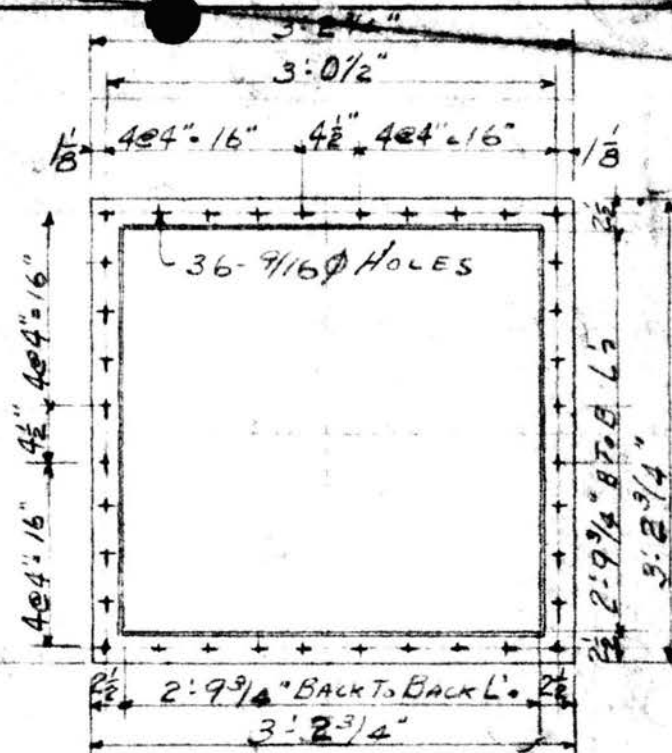
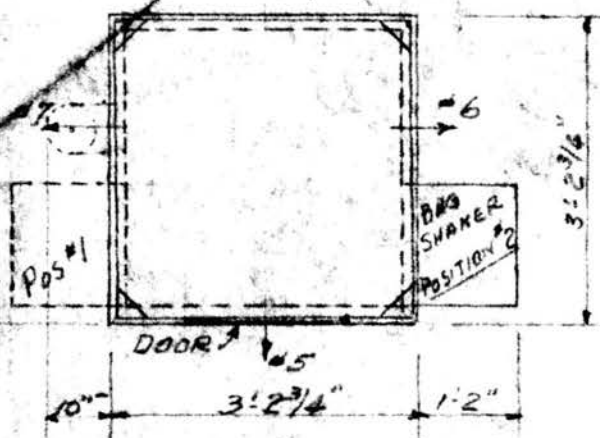
ITEM	DESCRIPTION	MARK	NO. REQ'D	SPECIFICATIONS
1	FILTER BAGS (LONG)	4'-6"	28	4'-6" WITH SPRING RINGS
1R	BAG HANGING RODS (SHORT)	SHORT	28	
2	FILTER BAGS (SHORT)	4'-0"	8	4'-0" WITH SPRING RINGS
2R	BAG HANGING RODS (LONG)	LONG	8	
3	BAG SHAKING ANGLE SPACER	PS-4	12	3/4" dia. x 3/4" LONG DWG. 4389
5	BAG HANGING SPRINGS	#850	6	9/16" x 3/4" O.D. (MOTOR SHAKER)
6	HANGER ANGLES	A5-205	6	1 1/2" x 1/8" x 33-3/4"
7	SHAKER ANGLES	A6-205	4	1 1/2" x 3/16" x 29 1/2"
8	SHAKER ANGLES	A6-205-R	2	1 1/2" x 3/16" x 29 1/2"
9	DOOR SEAL		12 ft.	3/16" x 1" ADHESIVE SPONGE
10	SHAKER SHAFT (HAND & MOTOR)	CRS-1-205	1	1" dia x 40-3/4"
11	VIBRATING SHAFT	CRS-3-205	1	3/4" x 13
12	VIBRATING SHAFT	CRS-4-205	1	3/4" x 13"
13	VIBRATING SHAFT	CRS-2-205	1	3/4" x 12" long
13A	VIBRATING SHAFT		0	NOT REQUIRED
14	VIBRATING SHAFT SPACER	PS-1A	2	3/4" PIPE x 1 1/2"
15	VIBRATING SHAFT LEVER	R-621	4	WITH SET SCREW
16	SHAFT SHAKER END BEARING	R-636	1	CAST IRON (HAND SHAKER)
16A	SHAFT SHAKER END BEARING		1	1" BALL BEARING (MOTOR SHAKER)
17	SHAFT CENTER BEARING	F-100	0	NOT REQUIRED
17B	SHAFT TAIL END BEARING	R-636	1	CAST IRON (HAND SHAKER)
17C	SHAFT TAIL END BEARING	F-100	1	1" FLANGE OIL (MOTOR SHAKER)
18	BEARING PLATE	P-1	1	FOR MOTOR SHAKER
19	SHAFT SET COLLAR	583-8	2	1" BORE
20	SHAFT CRANK LEVER	R-681	1	WITH SET SCREWS
21	CRANK LEVER PIN	CRS-5	1	5/8" x 2 1/2"
22	CONNECTING ROD	TYPE S	1	8 1/2" DWG. 3883-2 WITH INSERTS
23	CONNECTING ROD INSERT		2	1 1/2" OD x 15/16" DWG. 3883-2
26B	PULLEY	R634	1	10.6" WITH E-466-7A BUSHING
27B	MOTOR SHEAVE	2" VSA	1	2" SPECIFY BORE
28	ECCENTRIC PIN	CRS-6	1	5/8" x 3-3/4"
29B	STEEL SHAFT	CRS-10	1	1" x 4 1/2"
30B	MOTOR BASE	R-635	1	DRILL HOLES TO SUIT MOTOR
31	ELECTRIC MOTOR		1	1/4 H.P. 1800 RPM
32	DEADEYE	R-210	1	FOR HAND SHAKER
33	SHAKER HANDLE BAR	HRS-2	1	1-3/4" x 19" (HAND SHAKER)
34	SHAKER HANDLE	HRS-3	2	3/8" x 36" (HAND SHAKER)
* 35	VALVE MOUNTING FLANGE	R-590	1	
* 36	VALVE BODY FLANGE	R-527	1	
* 37	VALVE RUBBER SEAT	#98	1	4" I.D. x 3/4" CORD RUBBER RING
* 38	VALVE CONE	R-589	1	WITH PIN
* 39	VALVE LEVER	R-605	1	WITH DRIVE PIN
* 40	VALVE COUNTERWEIGHT	R-211	2	WITH CLAMP BOLT
* 41	VALVE DEAD EYE	R-210	1	3/4" BORE
* 42	VALVE SHAFT	CRS-9	1	3/4" x 15"
* 43	VALVE SHAFT SEAL SPRING	#600	1	SPRING & PACKING ASSEMBLY
* 44	COUNTERWEIGHT BAR (VALVE)	HRS-4	1	1-3/4" x 1/4" x 15"
45	SUPPORT LEGS	A-205	4	GIVE HEIGHT OF LEGS
46	SIDE SUPPORT FRAME	B-205	4	3" x 3" x 1/4" x 3" = 5 3/4"
47	END SUPPORT FRAME	C-205	2	2 1/2" x 2" x 3/16" x 2' - 20 3/7"
51	MOUNTING BRACKET	3300-SB	1	FAB. STEEL
52	V-BELT	#2390	1	#2390 V-BELT
53	TENSION SPRING		1	17/32" x 1-1/4"
54	TENSION ROD	3300-19	1	3/4" x 8"

NOTE: GIVE MACHINE NUMBER ON NAME PLATE WHEN ORDERING PARTS

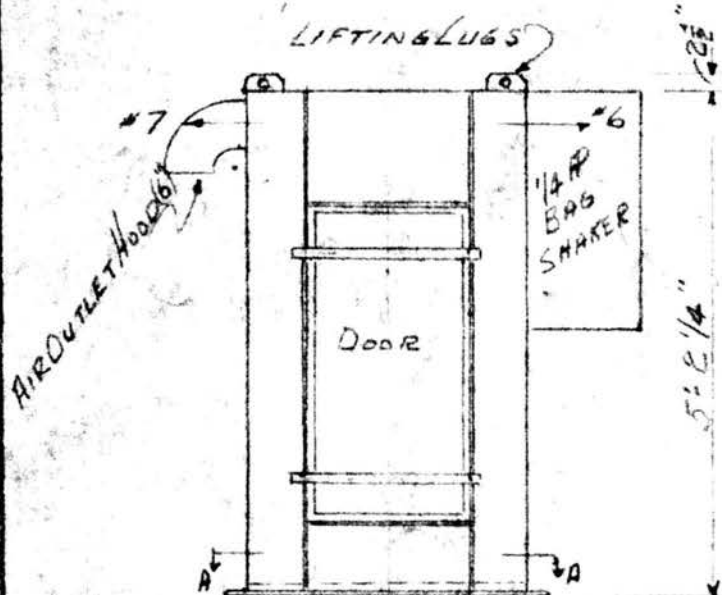
SERIAL NUMBER OF YOUR MACHINE

\* See Dwg. 5236F for Valve Parts list on machines with serial no. after 34775 (5/1/67)





FILTER FLANGE  
(SECTION A-A)



**NOTE**  
SPECIFY - POWER FOR BAG SHAKER/MOTOR

- LOCATION OF BAG SHAKER  
Pos #1 OR Pos #2
- LOCATION AIR OUTLET  
At #5, #6 #7, #8 OR ROOF

**RUEMELIN MFG. CO.**  
MILWAUKEE, WISCONSIN, U.S.A.

#205 DUST FILTER  
WITH CASING HAVING FLANGED ANGLE  
FOR BIN MOUNTING

SCALE DATE 2/17/61 OR 874

THIS DRAWING IN DESIGN AND DETAIL IS OUR  
PROPERTY AND MUST NOT BE USED EXCEPT  
IN CONNECTION WITH OUR WORK AND IS  
SUBJECT TO RETURN. ALL RIGHTS OF  
INVENTION ARE RESERVED.

FIG. 9 A  
5522-205

INSTRUCTIONS: LIST ALL PROCESS-WEIGHT INFORMATION. MAKE AN ADDITIONAL COPY FOR EACH ADDITIONAL PROCESS.

GLOBE UNION

NOTE: YOU ARE REQUIRED TO LIST ALL PROCESS-WEIGHT INFORMATION. IF ANY OF THIS INFORMATION RELATES TO SECRET PROCESSES OR METHODS OF MANUFACTURE OR PRODUCTION, IDENTIFY IT AS SUCH AND ATTACH A LETTER OF JUSTIFICATION. SUCH SECRET INFORMATION WILL BE HELD CONFIDENTIAL WITHIN AIR POLLUTION CONTROL PROGRAMS.

OPERATING SCHEDULE: 4 HOURS/DAY 5 DAYS/WEEK 50 WEEKS/YEAR

PROCESS NAME OR DESCRIPTION: Bulk Oxide Storage & Transfer

(LIST SOURCE NUMBERS AND CONTROL DEVICES BELOW)

REFER TO FLOW SKETCH OF -10

PROCESS MATERIALS

INPUT/YEAR

OUTPUT/YEAR

MATERIALS

QUANTITIES

UNITS

MATERIALS

QUANTITIES

UNITS

Lead Oxide	19,799,857	lb/yr

Lead Oxide	19,799,817	lb/yr
Fugitive Oxide Emission		
RATE: 104 lb/hr Baghouse	40	lb/yr

NORMALLY TRANSFER OXIDE FOR 4 HRS } ALL DUST COLLECTED IN BAGHOUSE  
@ RATE OF 20,000 lb/hr OR 50,000 lb/day

SOURCE NUMBER	ASSOCIATED AIR POLLUTION CONTROL DEVICES	DATE INSTALLED	POLLUTANTS AFFECTED	CONTROL NUMBER	% EFFICIENCY RATED	% OPEN
#20	#203 REMMELIN Cloth Filter	1962	Lead Oxide	4	99.8	99.8
	BAGHOUSE - 12' dia					
	4' dia Bags 4' long					
	NEW #205 REMMELIN Cloth Filter	1974	Lead Oxide		99.8	99.8



**TABLE B  
FABRIC FILTERS**

**GLOBE-UNION INC.**

Point Number (from Flow Diagram) <b>Point (A)</b>		Manufacturer & Model No. (if available) <b>Ruemelin Model #205</b>		
Name of Abatement Device <b>Bulk Lead Oxide Transfer Bag Dust Collector #2</b>		Type of Particulate Controlled <b>Lead Oxide Dust</b>		
<b>GAS STREAM CHARACTERISTICS</b>				
Flow Rate (acfm)		Gas Stream Temperature (°F)		Particulate Grain Loading (grain/scf)
Design Maximum	Average Expected			
820	430	Ambient		Inlet N/A
Pressure Drop (in. H <sub>2</sub> O)  <3		Water Vapor Content of Effluent Stream (lb water/lb dry air)		Fan Requirements 1 1/2 (hp)      860 (ft <sup>3</sup> /min)
<b>PARTICULATE DISTRIBUTION (By Weight)</b>				
Micron Range		Inlet		Outlet
0.0-0.5		N/A      %		%
0.5-1.0		%		%
1.0-5.0		%		%
5-10		%		%
10-20		%		%
over 20		%		%
<b>FILTER CHARACTERISTICS</b>				
Filtering Velocity (acfm/ft <sup>2</sup> of Cloth) 2.1	Bag Diameter 5 (in.)	Bag Length 4 (ft) 6"	Number of Bags 36	Number of Compartments in Baghouse 1
Bag rows will be:  Staggered                      Straight X		Walkways will be provided between banks of bags:  Yes                              No X		
Filtering Material:              Cotton Satin				
Describe Bag Cleaning Method and Cycle: <u>Automatic motor-driven shaker will shake bags after each operating period of six hours. In other words, the bags will be shaken daily.</u>				

**ADDITIONAL INFORMATION**

**On separate sheets attach the following:**

**A. Details regarding principle of operation**

**B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to-scale clearly showing the design, size and shape.**

**If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.**



# TEXAS AIR CONTROL BOARD

1100 WEST 49th STREET  
AUSTIN, TEXAS - 78756

CHARLES R. BARDEN, P. E.  
EXECUTIVE SECRETARY

Mr. Robert F. Nicolai  
Pollution Control Engineer  
GLOBE-UNION INC.  
P. O. Box 591  
Milwaukee, Wisconsin 53201

Dear Sir:

This will acknowledge receipt of your general Application for Permit to Construct or Modify a Facility, Form PI-1. After evaluation of your initial application, we have determined that additional information is necessary before a Construction Permit may be issued. Please supply all information as requested on the attached Supplemental Application, Form PI-2. (Since all parts of Supplemental Application, Form PI-2, are not required for every situation, only those sheets believed applicable to your application are enclosed. Additional sheets are available upon request.) Complete and return in accordance with general instructions, Form PI-1.

Yours very truly,

Lawrence E. Powell  
Permits Program  
Texas Air Pollution Control Services

## ATTACHMENT INDEX

NUMBER	TITLE
4	Form PI-2 Supplemental Application
3	Table 1 Emission Sources
4	Table 2 Material Balance
	Table 3 Air Pollution Abatement Equipment Data
	Table 4 Combustion Units
	Table 5 Solid Waste Incineration
	Table 6 Boilers and Heaters
	Table 7 Storage Tank Summary
	Table 8 Flare Systems
	Table 9 Particle Size Distribution
	Table 10 Cyclone Separators
	Table 11 Fabric Filters
	Table 12 Electrostatic Precipitators
	Table 13 Scrubbers or Wet Washers
	Table 14 Absorbers
	Table 15 Adsorbers
	Table 16 Simplified Data Sheet for Particulate Dust Collector
	Other Information

LEP/det. board, 1/1

**TEXAS AIR CONTROL BOARD**  
**FORM PI-1, GENERAL APPLICATION**  
 (Read Instructions Before Completing)

**I. PERMIT TO BE ISSUED TO** GLOBE-UNION INC.  
 (Corporation, Company, Government Agency, Firm, etc.)  
 Mailing address: P. O. BOX 591 MILWAUKEE, WISCONSIN 53201  
 Individual authorized to act for applicant: Name G. E. Stoughton Title Manager,  
Corporate Facilities  
 Address 5757 North Green Bay Ave., Milwaukee, WI 53201 Phone (414) 228-3288

**II. LOCATION OF PERMIT UNITS** (Latitude and Longitude must be to the nearest 15 seconds)  
 Name of plant or site Globe-Union Inc., Garland Street address (if available) 1111 Shiloh Road  
 Nearest city: Garland County: Dallas Latitude N32-54-15 Longitude W96-40-0

**III. TYPE OF OPERATION OR PROCESS OF PERMIT UNIT** Lead-Acid Battery Manufacturing Plant  
 A. Name of operation or process of permit unit Lead Oxide Transfer-An Additional Bag Dust  
 B. Permit unit identification number ID GLO-0240 Collector  
 C. Type (Check one) ☒ Permanent ☐ Portable  
 D. Operating schedule: Hours/day 6 Days/week 5 Weeks/year 50

**IV. PERMIT UNIT CLASSIFICATION** (Check applicable blocks)  
 A. ☒ New Permit Unit Proposed start of construction 12/1/73 Start of operation 1/5/74  
 B. ☐ Modification of Permit Unit (Date) (Date)  
 C. ☐ Change in Location  
 D. ☐ Change in Ownership  
 E. ☐ Permit Unit Now Operating Under Permit Number 10 520 024

**V. If Items IV. A, B, or C were checked, submit the following information under either A or B**

- A. Data requested in B1, B2 and B3 has been previously submitted under Permit No. \_\_\_\_\_
- B.1 Submit three copies of an area map to approximate scale showing the location of the property, the land use designations for adjacent and nearby lands which may be affected by the emissions, geographical features such as highways, roads, streams and significant landmarks, distance to the center of nearest city or town if located outside an incorporated municipality. If the property is located within a town or city, a city map may be used to present this information, and if outside a town or city, a county highway map may be used. County highway maps may be ordered either through the Texas Highway Department, Austin, Texas, or through the State District Highway Engineer for the county.
- B.2 Give a legal description of the tract of land upon which the plant or facility is located. The term "legal description" means either a metes and bounds description, or the block and lot number of a platted subdivision which would be suitable to effectuate the transfer of title to real property.
- B.3 Submit a plot plan of the property, to scale, showing the boundaries, the location of all sources of any air contaminants on the property, the distance from each source to the nearest boundary line, prevailing wind direction, true north direction, a scale and any other information deemed relevant by the applicant. Identify the sources by numbers; use the same numbers for those sources in this permit that will be assigned in the flow diagram.

**VI. If Item IV. E is not checked, submit the following information**

- A. Process Flow Diagram. Prepare and attach a flow diagram identifying significant individual processes and/or operations. Identify (by number) points where raw materials, chemicals, and fuels are introduced, where gaseous emissions and/or airborne particulates may be discharged including intermediate releases where finished products are obtained, and location of pollution control devices.
- B. Description of Process. Prepare and attach a written description of each process and of the function of the equipment in the process. (Identify items of equipment by numbers corresponding to flow diagram numbers.) The description must be in sufficient detail to determine the general operation of the process. Particular attention must be given to explaining all stages in the process where there is or may be a discharge of any solid, liquid, or gaseous material(s) into the atmosphere. Estimate number and type of air pollution abatement devices to be used such as 1 electrostatic precipitator, 2 cyclones, 1 incinerator, 2 baghouses, etc.

**VII. Has local Air Pollution Control Program been contacted?** ☒ Yes ☐ No ☐ No active local program in the city or county.

**VIII. I, Robert F. Nicolai Pollution Control Engineer**  
 (Name) (Title)

state that I have knowledge of the facts herein set forth and that the same are true and correct to the best of my knowledge and belief. I further state that to the best of my knowledge and belief, the project for which application is made will not in any way violate any provision of the Texas Clean Air Act, Article 4477-5, Vernon's Texas Civil Statutes, as amended, or any of the rules and regulations of the Texas Air Control Board or any local governmental ordinance or resolution enacted pursuant to the Texas Clean Air Act.

DATE October 26, 1973

SIGNATURE

G. E. Stoughton

Given  
Previously  
2/19/73

**DALLAS, TEXAS**





DALLAS, TEXAS



# OVERSIZE DOCUMENTS, MAPS, & PHOTOS

Record Series: Air DB041/W  
File #: 1714 P VAL I

The below listed documents, from the above referenced file, that belong in this location in the file were not microfilmed because of their size and/or media format. See the Records staff for the location of the following oversized documents and/or photographs:

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Johnson Controls, Inc.  
Layette (X3)

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